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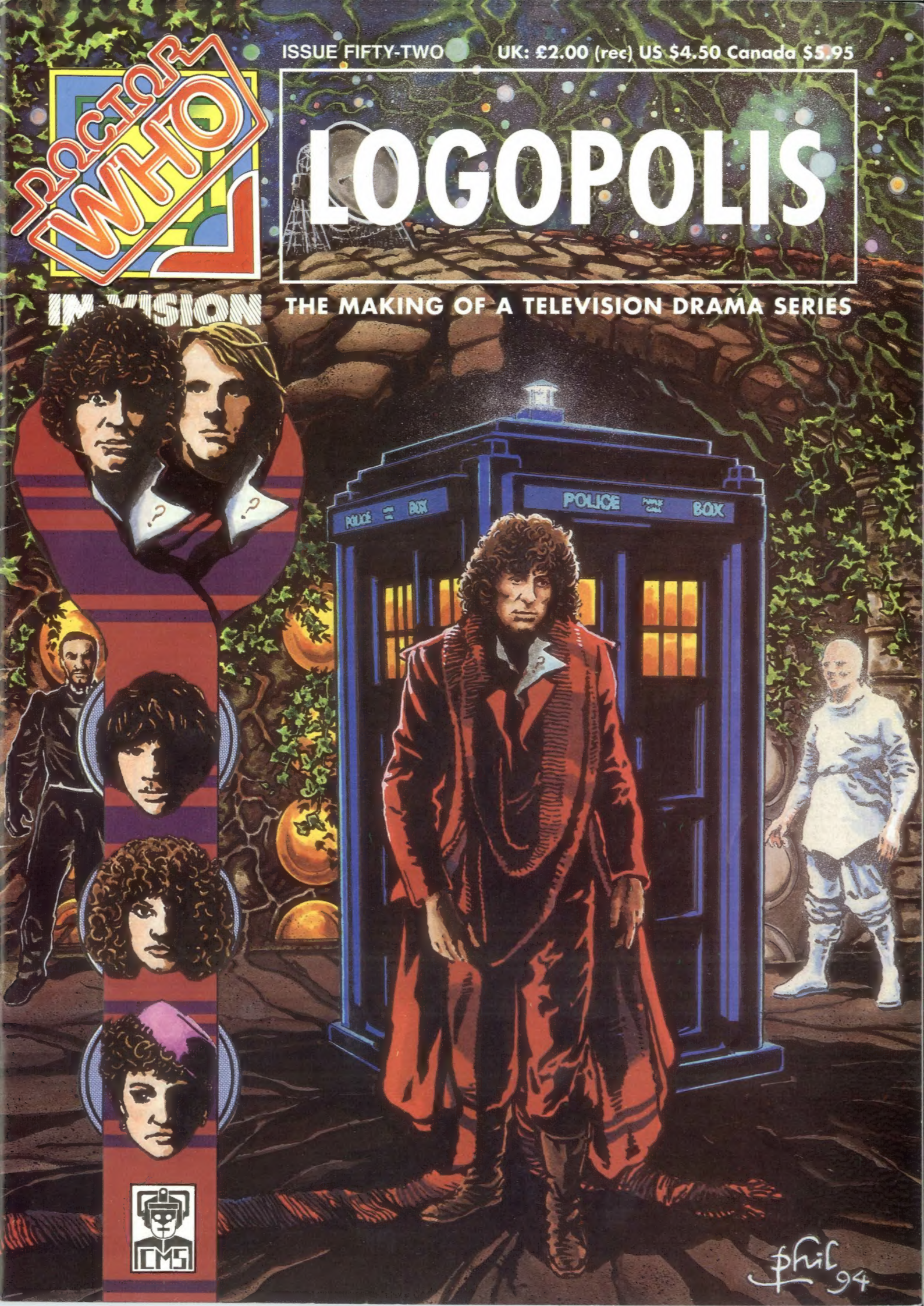
DOCTOR WHO

LOGOPOLIS

IN VISION

THE MAKING OF A TELEVISION DRAMA SERIES



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Borderlines

THE WATCHER stood watching the motorway.

It couldn't think, exactly, only dream. It was a dream of a future person, in both senses of the word: that is, it was both a vision of what a yet- to- be- born person would be like, and something that that person had once dreamt.

And it was dreaming itself.

Itself- but definitions like this could go on forever, bigger inside than out, a text loop. The Watcher was waiting to see the person it was due to replace, to fill up, to-

Hah. Is it any wonder that Gallifreyan language runs away from all this instead of embracing it? They've got a third hand vocabulary worthy of a Conservative Club in Epping.

For the last few weeks, the Doctor had been wandering around the universe without the Watcher inside him. Now we get onto better ontological ground, because that's like a soul or a muse, and the Doctor hadn't been amused for some time now. The thing which threaded him to his other selves, that sorted and unpacked and erased and magicked time and memory when they met, it was now gone. He was more like a mortal, and that made him aware of his own mortality.

The Watcher knew all this as he watched. He remembered being wrenched from the Doctor as the TARDIS fell into the CVE. Not that that had had anything to do with it. The Watcher was magic, and all time and space were a path to him.

If you stared at the Watcher for a while, you'd see blond hair, and a grin. You'd smell the clover of distant fields and hear the sound of bells in fictitious golden years. This beautiful creature would, nevertheless, inhabit them, be a native of them, once he was born. He stood for better things, for other times, for the hand of the slip fielder that reaches for the six and misses it. He stood, in imago, for all that England was, or had never been, set against what it was becoming. He was the summer of 1914, but he knew all about the summer of 1994, and that knowledge would make him race like a wonderful English firework when he was released. When the old man had died. When his reach had finally exceeded his grasp. Just a fall.

Mind you, that was why the Watcher was unaware of Barnet, all around. Context didn't mean anything to the Doctor, and so it didn't mean anything to him. Renegade Time Lords leave because they've got tired of context all the time. English contexts, in particular, would really get on their nerves if they had to live in them for any length of time.

Time Lords and Australians both. In a bedroom in Barnet, a young woman was holding up her uniform to the mirror, and she was rehearsing a dance that went with the words: 'In the event of an emergency, oxygen masks will drop from the compartments above you-' She'd been having odd dreams too, the kind of dream you have before taking on a new job, right? Showing up and the plane's empty, and it's all a big white space, and the Captain's a real spunk, but he's all in white too, and she'd woken to: 'That music's lost it's taste, so try another flavour-' and primped up what had been a quiff, hoping that it met dress standards.

The Watcher knew that on Traken, Nyssa was searching the woods with the hounds, calling 'Father, father!' at the night, and ordering the proctors to comb farther into the bushes, because somewhere there might lie the body of poor dead Tremas, and she wanted to see it and grieve.

The Watcher had come to her twice already, and she had turned him away, shouting at him on the second occasion to calcify. She wouldn't turn him away again, demon or angel or whatever he was, because the Trakens at least believed in the old magical stories, and she was to be their last survivor. He hadn't told her that.

Cars flashed by on the bypass, and the Watcher stood still, waiting for the TARDIS it knew would arrive. It was staring at a police box, that old thing, the thing that most people knew of now as Doctor Who's TARDIS. They knew of it like that because of teatime. Condensed milk sandwiches and jelly. 'And now let's meet the eight, who are going to regenerate.' Saturdays would never be the same. Things were going to change. Everything changes. And all through the eighties, the English would be scrabbling to get back to that last decade, time slipping from under their feet as they tried to turn back the clock and make it back to that comforting, all- encompassing Saturday afternoon Match Of The Day moment.

Before the fall.

The Watcher saw it like a roller coaster, or like one of those pirate ship rides, where they take you right over, and hold you there for a moment, so you're hanging in mid- air, screaming your head off, waiting for the womph of gravity to grab you again.

It was great when you fell.

There was no need to be afraid.

In his unformed heart, he felt what it was going to be like. The last gunless hero, the man with the unashamedly white hat, who walked down those dark streets but was not himself dark. He loved well but unwisely, and took all the mess that the universe and the script editor threw at him, right on the chin without a helmet.

He was going to be a hero, pure and simple. That hadn't changed, and it never would.

The Watcher realised that it was creating its own golden age, right now. It was about to be born, and it was already nostalgic.

The wheezing, groaning sound began, and the new blue box appeared next to the old. The Watcher anticipated.

This was going to be great.

Paul Cornell

LOGOPOLIS is a "cold, high place overlooking the Universe," according to the Master, while the Doctor describes it as "a quiet little planet", whose people are retiring: "they like a quiet life". We only ever see a small area of the planet - a few 'streets' surrounding a facsimile of Earth's Pharos Project, a radio-telescope establishment trying to make contact with intelligent life in space. Presumably after receiving signals from this, the Logopolitans decided to recreate it in order to send out their own signals - not to contact intelligent life, but to transmit a program that would solve their primary problem, that of permanently preventing entropy from destroying the Universe. Some time ago, the Universe passed the point at which entropy would have resulted in its destruction. As a closed system this would be inevitable, but the Logopolitans have used their mathematical skills to open Charged Vacuum Emboitments into other universes.

So much about Logopolis and the Logopolitans is mysterious that it is impossible to make to sweeping statements about the place and its people. The Doctor talks in broad terms, implying that the planet is represented by what we see - mathematicians living a hermitical life, dedicated to their science. The 'streets' of Logopolis are lined with what may be dwelling houses, although their only external feature is one or more doors. Logopolitans can be seen sitting on low benches, dressed in flowing black and gold robes, clutching abacuses, although as often they wander around, sometimes in pairs. Some other Logopolitans are at work in the corridors of the reconstructed Pharos project building. The Pharos facsimile with its dish is a recent addition, and the Doctor has visited the planet before.

Logopolitan mathematics is dominated by the technique of block transfer computation, which enables them to model and space-time event in the Universe through mental calculation - as "the essence of matter is structure, and the essence of structure is mathematics" - but they cannot use computers other than to store data as their calculations would affect the workings of such machines and render them useless. Instead, the Logopolitans mutter or intone their calculations.

The leader of the Logopolitans is the Monitor, and like the rest of the apparent population he is an elderly, yet spry, white-haired man. If there are any women and children on the planet we do not see them. He tells Tegan that, rather than being sweated labour as she interprets the Logopolitans living conditions, the men are dedicated to their tasks, scientists with "no need to smile". It is possible they are deaf as well, as they do not notice the Master's TARDIS landing, disguised as the only shrub for miles, in the area where the Doctor's TARDIS has landed.

The only indication of the rest of the planet is a few glimpses of desert wastes between street walls and in the background of the TARDIS's landing site, while our first sight of the 'city' appears to place it atop a low hill. Despite such arid surroundings, the description of Logopolis as cold might not be entirely figurative, given the heavy clothing worn by its inhabitants.

Curiously, although they have decided altruistically (as far as we know, although there is obviously an element of self-interest) to save the Universe, the Logopolitans are willing and able to drop everything to help the Doctor repair his chameleon circuit. As a planet Logopolis appears very vulnerable, with no kind of security either against landing or on the ground - indeed no-one seems to have any occupation apart from mathematician, albeit that an alien visitor might make a similar deduction if it were to land in the middle of a university campus.

THE MONITOR

LOGOPOLIS is the keystone of the universe. So the Monitor, the apparent ruler of the mathematcially based civilization that lived on the dusty pink world that balanced the cosmos, reveals.

That the Monitor was proud of the achievements of his people cannot be in doubt: their unique mathematical skills generated the equations that drained inevitable entropy from the universe and saved it from heat death. But he was a slave to the system.

When Tegan compared the serried rows of Logipolitan monks to sweat-shop workers, the Monitor was mystified: his people were driven by mathematical necessity. Smiles and laughter had no place in their ordered lives.

It is with typical dedication that the Monitor - last survivor of his people - helps the Doctor and the Master to the very end. Then he too is kiled, wasted away by the entropy cloud which his people had fought for so long to keep in check...

AUNT VANESSA

AUNT VANESSA held a special place in Tegan's heart: when the Eternals recreated Tegan's room on board the *Shadow* in ENLIGHTENMENT, Aunt Vanessa's photograph was there, indicating that she was never far from Tegan's thoughts. And when Tegan finally decided to leave the TARDIS crew, she gave her aunt's homily - stop when it isn't fun anymore - as her main reason.

But although Vanessa only played a minor role in LOGOPOLIS, it was a very important one, because it helped introduce the Doctor's newest companion by showing her in her true light - petulant, single-minded, and feminist in her ideas and ideas. Vanessa was none of these. When her car broke down near the Barnet bypass, her first reaction was to go for help. But, being the indulgent relative that she was, she allowed Tegan to demonstrate her independence, tactfully pointing out that Tegan should really jack the car up before trying to change the tyre. Everything that Vanessa said indicated that she cared about - and fussed over - Tegan. Her relationship with Tegan was never made clear - Tegan's father was a sheep farmer in Brisbane: was Vanessa his sister? - but she acted like a surrogate mother in the short time that we saw her.

Vanessa's final act was carried out from concern for Tegan. Worried about her niece's absence, she was drawn towards the only legitimate police box in England. And the Master killed her.

When Tegan learnt of her aunt's death, her horror was clear. It is ironic that Vanessa should both convince Tegan to join the Doctor, and be the driving force behind her decision to leave. To Tegan, she was of paramount importance. To the newly incarnated Master, she was grist to his mill of revenge. IV

THE 2nd LAW OF THERMO-DYNAMICS

ORIGINS: LOGOPOLIS is nothing less than a story about the end of the Universe. Although many previous **Doctor Who** serials had alluded threats to its stability, referenced universal domination by one master power, or even hinted at there being more than one Universe, in the hands of a science-based writer with an eye for accuracy such as Christopher Bidmead, this would be the story about the ultimate threat posed by Doctor's ultimate humanoid foe, the Master.

In short, Bidmead wanted to go out not with a big bang, more a cosmic whimper; the dissolution of all things by the effects of entropy.

While a precise starting date is difficult to pin down, it is known Bidmead was working on the script for LOGOPOLIS as early as summer 1980, presumably once he had made up his mind about his own fate with the series. The inclusion of the CVE and N-Space concepts as early as STATE OF DECAY and FULL CIRCLE would indicate that the overall shape of the season finale had been worked out almost at the beginning of Bidmead's tenure.

Initially a reluctant job applicant, Bidmead had found his imagination fired by the show's many concepts and had thrown himself whole-heartedly into the role of Script-Editor, often working very long hours and setting himself difficult challenges to try and bring the show, as he saw it, back up to scratch after what he regarded as the "cod science-fiction" era of Graham Williams and Douglas Adams.

To counter some of this incredibility and lack of real science, Bidmead, Letts, and Nathan-Turner devised a discipline of "extended credibility" to control the fantasy element. Bidmead explained: "The idea was that the eccentric and unpredictable Doctor would arrive at a real planet which had real rules and a real economy and a real history, however bizarre. It was all to be rational and understandable, the only element of fantasy being the Doctor himself."

Over the years many have heaped praise on his efforts. Peter Grimwade, who directed two stories script-managed by Bidmead, spoke highly of his tendency never to take the easy route. "Chris doesn't like to play safe and lives to strive for new ideas" he told an interviewer for *Doctor Who Bulletin* issue 79. "In commissioning (Andrew) Smith he also took on an awful lot of work involving rewriting and reshaping the script."

Certainly it was unusual for any Script-Editor to have a stand-up row with a Set Designer, as happened on STATE OF DECAY, but it reflected Bidmead's driving presence, a presence which led Geoffrey Beevers, who played the Master in THE KEEPER OF TRAKEN mistakenly to believe he and John Nathan-Turner were co-Producers on the show.

Almost inevitably the proximity of two such strong-willed persons on the same programme caused head-to-head clash on more than one occasion. Often Executive Producer Barry Letts was forced into the unwanted role of arbitrator between the two men, and is one of the prime reasons why Letts is now so unwilling to talk about this one phase of his long Doct**or Who** career.

Bidmead's decision to leave after his year-long contract expired in December 1980 was thus mutually beneficial to all the warring parties. Barry Letts could absolve his supervisory roles over both scripts and production. John Nathan-Turner would be free to start his second year with totally his own choice of Script-Editor, Directors and cast, and Christopher Bidmead would be able to pen the final story of the eighteenth season, freed from the rules governing what Script-Editors can and cannot write for their own series.

SCRIPT: LOGOPOLIS was the final germination of several seeds sown carefully throughout the preceding six serials by John Nathan-Turner and Christopher Bidmead. Bidmead also saw his work on the LOGOPOLIS scripts as a "natural fusion of my work as a technical journalist and as a radio and television scriptwriter." Cast-wise it was planned to complete the saga of the Master's return. During the writing of LOGOPOLIS Christopher Bidmead had no idea he would be subsequently asked to pen the Season 19 opener and so had no real plans for the Master's fate other than letting him escape from the Pharos project at the end of the story.

In researching the character of the Master, Bidmead came across an apparent paradox. "(He) ...is presented as a real Class A baddie but only, it seemed to me, because people said so. Most of the time he was an amiable old dodderer who was always found out. To make it work, I felt the Master had to do really nasty things - and killing Auntie Vanessa was just that".

The regeneration of the Doctor had also been prescribed to this story. One mandate to Bidmead was that the regeneration should be total within the serial, with Peter Davison fully as the Doctor by the close of the last episode. This was to remove the need to re-use (and thus pay for...) any footage from LOGOPOLIS in the opening story of the next season - as had happened in ROBOT where a small extract from PLANET OF THE SPIDERS had been interjected. In the event John Nathan-Turner changed his mind and ultimately did use footage from LOGOPOLIS as a pre-credit sequence prologue to CASTROVALVA.

The Watcher stemmed from conversations between Bidmead and Barry Letts, who also gave him his idea of TARDIS machines being recursively inside one another. PLANET OF THE SPIDERS had shown exceptionally gifted Time Lords capable of projecting their future selves ahead of their present incarnations. But whereas K'Anpo had been skilled enough to manifest his future body in full, Bidmead felt there was more of an exciting opportunity to be had if the Doctor's next body was brought into being subconsciously as a partially formed, embryonic figure, triggered by the impending nature of the cataclysm forewarned by the sounding of the TARDIS Cloister Bell. The Watcher could materialise as a semi-corporeal entity and, knowing the future, could advise his former self. But only at the pre-destined moment would their two selves merge and complete the generation of the Doctor's new physical body.

The final cast change was the arrival of Tegan Jovanka. A joint creation, she was conceived as the antithesis to Romana; vitriolic instead of calmly assured, keen to learn rather than knowledgeable, impulsive in place of thoughtful and in line with the Producer's wish to introduce a more vulnerable roster of permanent team members aboard the TARDIS. Making her an Australian was a further move away from the mould of previous female companions all of whom, even Leela, had spoken with middle-class, predominantly home counties, accents.

In fact, one of John Nathan-Turner's initial concerns was that the new Doctor should be eased in with as many familiar companion's faces as possible. He had originally hoped to reintroduce a former companion as a regular to fulfil this role. According to some sources, Sarah Jane Smith was considered but Elisabeth Sladen refused (agreeing instead to appear in **K•9 and Company**). Leela was also considered and Louise Jameson also refused.

An unplanned late addition was Nyssa. Only during recording of THE KEEPER OF TRAKEN had it been confirmed that Nyssa would become a regular crew member, a decision which prompted Bidmead into a frenetic late rewriting of episodes three and four of LOGOPOLIS to include material for her.

As for the storyline itself, Bidmead claims much of it stemmed from his growing fascination with the workings of micro-chip processors and personal computers. "The set-up on Logopolis - the corridors, their method of communication, the Monitor, etc. - were all based on things I had discovered about the interior construction of the micro computer." he told readers of *Doctor Who Magazine* issue 109. "The idea that maths was fundamental to the continued existence of the Universe went deeper than that. It harked back to what I took to be the most important principle of **Doctor Who**; the ultimate, utter importance of the scientific method, and the need to get a whole new generation of people excited by the scientific method".

While the functionality of Logopolis was based on a computer, visually Bidmead had something more organic in mind, as he described in the following extracts from the script.

"Seen from above the city looks something like a

human brain, its alleyways being deep involutions in the smooth pale rose rock. At one end of the city the rock smoothes out into a smooth plateau, which we will later come to know at the Landing Area. At the other end what might be a single large building is surmounted by a parabolic antenna...

"The Landing Area is a high place, flat and open, overlooking a horizon of pale rose sands that merge mistily into an opalescent sky. Near the Landing Area the geological involutions that will become the alleys of the city begin...

"The Doctor, Adric and Tegan move with the Monitor and his welcoming committee past the simple, open-fronted cells that line the narrow, winding streets. The cells are small, well-ordered dwellings cut into the pale rockface, and in the entrance of each sits a Logopolitan, working at a kind of abacus held in his lap. Beneath the conversation that follows we become aware of the gentle clacking of the abacus beads and a susurrus of whispering from the inhabitants as the information that is vital to their work is passed from cell to cell...

"...The residual whispers of the inhabitants fall silent as they listen to hear the new whispered numbers of the Monitor echoing through the street. Once the shifting rhythms of the Monitor's voice have become established, other voices join in and the sound develops into a fugue. The abacuses begin to clack."

SCRIPT-EDITING: Indications are that Christopher Bidmead completed his plot breakdowns around the beginning of August, in time to list some of the events of the serial in the *Doctor Who Writer's Guide* issued August 11th. The revised version, issued October 30th, details more of the plot of LOGOPOLIS, suggesting a set of full scripts was, by then, available. This ties in with the intense period that followed as Bidmead strove to polish and re-polish scripts for THE KEEPER OF TRAKEN in time to meet its first studio on November 5th.

Acting as both a Writer and a Story Editor enabled Bidmead to deliver a set of LOGOPOLIS scripts that perfectly fitted what he knew would be the situation of the last story coming in at the end of the recording year, where traditionally money was very tight. There would be money for a week's location filming but the price would have to be a very small cast list - all of which the finished scripts encompassed.

Two events, however, conspired to make his last two months on the show a period of intense activity. The first was John Nathan-Turner's decision to upgrade Nyssa to the status of a regular on the show, thereby occasioning a complete overhaul of episodes three, four and parts of episode two.

LOGOPOLIS shaped the character of the 'new' Master as well as writing out the 'old' Doctor

The second, and more catastrophic for the production as a whole, was the need to mount a whole extra day of recording for THE KEEPER OF TRAKEN when production fell alarmingly behind schedule.

Because this remount was done for artistic reasons (rather than, say, due to a strike), the cost had to be shouldered by the Doctor Who Production Office out of their annual budget. The result was an immediate slashing of the location budget and the amount of time a film crew would be available from five to three days. Residential costs were prohibited and travel expenses pared to the bone. In every way LOGOPOLIS would have to be a cut-price serial.

The upshot for the Script-Editor was yet another re-write, changing some scenes that were planned for film to studio or to model-work (for example, the gantry scenes). The last sets of new pages were added to the camera scripts as late as December 3rd, less than a fortnight before the start of filming.

DIRECTOR AND TEAM: Wanting the best for the last, John Nathan-Turner chose as helmsman for this serial the Director whose work had impressed him the most this year, Peter Grimwade. A popular and resourceful figure during his years as a Drama P.A, Grimwade had earned his **Doctor Who** spurs supervising half a dozen of the show's key serials, including SPEARHEAD FROM SPACE, THE DÆMONS and THE ROBOTS OF DEATH; the latter giving him a small taste of fame when scripted references to "Robophobia" gained the synonym "Grimwade's Syndrome" during production. FULL CIRCLE had been his first Doctor Who as a Director although he had worked for BBC Scotland beforehand on an episode of the psychic drama series **The Omega Factor.**

Looking after set design this time was Malcolm Thornton. A versatile Designer, Thornton had joined the BBC part-time in 1973 after completing a four year course in Interior Design at Art College. He went full-time three years later as a Design Assistant working primarily in drama, but then later on Music, Arts and even Sports shows. LOGOPOLIS would be his first **Doctor Who** but definitely not the last.

For the fourth time this year June Hudson was brought in to handle Costumes. Her eighth Doctor Who over-all, this would also be her last. Peer pressure from fellow Designers keen to work on the series persuaded her Head of Department to abandon the experimental practice of allocating just two dedicated Designers to a whole season. Hereafter the old principle of whomsoever was available would again apply.

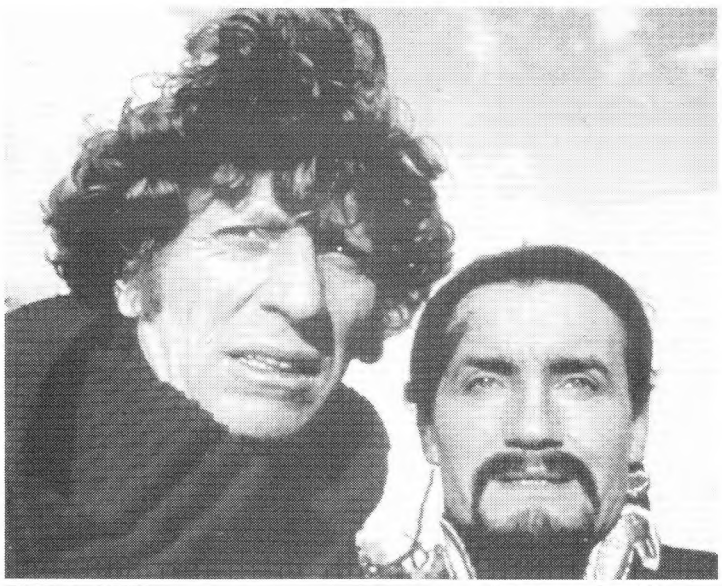
By special request John Nathan-Turner was able to get Dorka Nieradzik to supervise a Make-Up requirement that would include a need for some complex prosthetic work. Impressed by her work with the Argolins on THE LEISURE HIVE, Nathan-Turner was initially turned down by her Department Head who had already allocated her to another show. Reminding them that it was only thanks to the Doctor Who office giving Dorka Nieradzik her first big break as a Designer that others had seen her work and subsequently asked for her, John Nathan-Turner won his argument and thus won the Designer he wanted.

Like Peter Grimwade, Effects Designer John Horton's first Doctor Who had been the 1969 production SPEARHEAD FROM SPACE, and since then few years had slipped by without at least one serial bearing his name in the credits. In all he had designed for eight serials although LOGOPOLIS would be his last.

The cast for LOGOPOLIS was one of the smallest ever, although some twenty extras were required in addition, mostly to play Logopolitans. In essence the regulars easily out-numbered the guest stars, with the ranks of Tom Baker, Matthew Waterhouse and Sarah Sutton being joined by Janet Fielding, Anthony Ainley and even Peter Davison, who merited a "Doctor-sized fee" for his one day in the studio.

Of the speaking guest cast, three would be seen on film only; Christopher Hurst, character actor Tom Georgeson and Australian stand-up comedienne Delore Whiteman, the fourth solely in the studio, film star John Fraser.

Born 1931 in Glasgow, John Fraser quickly became known to the film industry as a, quote, "good-looking Scots star". His first film was *Valley of Song* in 1953 after which nearly twenty movies bore his name in the credits, including *The Dam Busters, The Trials of Oscar Wilde, Repulsion, A Study in Terror,*



Doctor in Clover, Operation Crossbow and *Isadora*. As the British Film Industry contracted during the Seventies Fraser moved more into television. After his last film, *Schizo* in 1976, he appeared in the medical drama **The Practice** before being asked to play the Monitor in Doctor Who.

Looking forward to her first year in time and space was twenty-three year old Janet Fielding who had landed the role of Tegan from a list of 109 other candidates. Although born in Brisbane Australia, Janet Fielding had emigrated to England in 1977 and had all but lost her native accent when she was asked to test for the role of Tegan. Unlike Sarah Sutton, she knew in advance this was to be a regular role, and hoped it would be her launch platform into a successful career on British television. Prior to Doctor Who her only main TV appearance had been one episode of ITV's **House of Hammer** series.

Her stage career, however, had been much more prolific. After graduating with a BA Hons. degree in English and Drama from the University of Queensland, Janet Fielding toured Australia with a number of repertory companies before making her move to England. Thereafter she had continued in theatre, appearing in productions all around the country, including London's ICA on the Mall and the Roundhouse in Camden Town. LOGOPOLIS was not quite her introduction to science-fiction. In Liverpool she had done a season with Ken Campbell's Science-fiction Theatre.

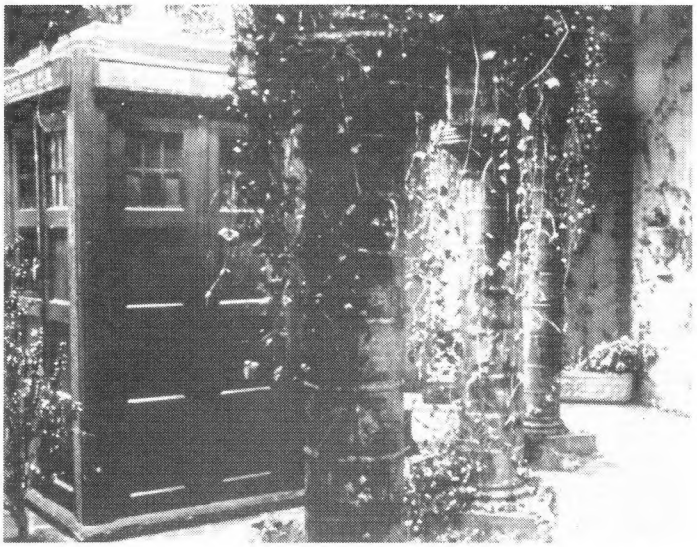
SET DESIGN: Jodrell Bank was to have been the principal location for LOGOPOLIS. Indeed Malcolm Thornton and Peter Grimwade were given a guided tour by the radio telescope's management in November while the pair contemplated how best to set up and shoot the fourth Doctor's last great confrontation with the Master. But when the money ran out, their ingenuity was tested to the utmost figuring out an alternative that was both achievable and affordable.

The solution came from an unlikely source. **Top of the Pops**, usually recorded Wednesday evenings in the large TC1 studio, had as part of its permanent set, a whole range of lock-together steel masts, gantries and cat-walks which could be variously arranged to hold anything from hanging props and flats to special lighting rigs. It was even sturdy enough to support people. By special request to the Producer of **Top of the Pops**, John Nathan-Turner was able to book the use of this scaffolding for LOGOPOLIS.

The first studio would need little else in the way of elaborate sets. The Pharos project ante rooms and adjoining corridors, the radio dish control room; all were basic flat wall sets with standard requirements for dressings which could come from stock. Even the tree, which would masquerade as the Master's TARDIS, was a purchased item.

One prop that was specially made was the Master's ionic column TARDIS. A timber-framed wood structure, the corrugated surface only ran around two-thirds of the column area, leaving a gap to the hollow interior big enough for an actor to squeeze into. There was no door. The conception of this TARDIS as an ionic column had been an agreed in-joke between John Nathan-Turner and Christopher Bidmead, recalling Verity Lambert's oft-quoted statement that it had been intended the TARDIS should be capable of disguising itself as a boulder... or an ionic column. Seventeen years later, the dream had been realised.

Another continuity touch was the TARDIS cloister room. Aware of criticism against THE INVASION OF TIME's depiction of the TARDIS interior, one of the Producer's stipulations to all set Designers was that every room and corridor aboard the TARDIS should have walls patterned with the familiar serried ranks of indented circles. Both Bidmead and Nathan-Turner had planned to make more use of the TARDIS in the future, and so were keen to build up an in-house stock of TARDIS walls, junctions and doorways that could be re-used over and over again. These flats were easy and cheap to make; being primarily just flat wooden boards with holes cut out - the holes then being filled with pre-moulded fibre-glass lozenges. The simplified version of Romana's bedroom in LOGOPOLIS (complete with her LEISURE HIVE costume on a hanger courtesy of June Hudson) was a perfect example of this versatility, as was the Cloister Room with its stock Roman columns and festoons of ivy - designed as an early visual mnemonic to the presence of entropy.



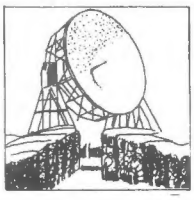
LOGOPOLIS introduced the TARDIS cloisters

Thornton's main construction overhead was the city of Logopolis for Block Two. Not only did the script stipulate it should look like the outer surface of a human brain, with ridged convolutions forming the alleyways, but the set also had to be capable literally of falling apart on cue.

To save the need to build too many elaborate set units, Thornton arranged for a lot of the destruction of the city to be suggested, rather than shown, by the old stage trick of dropping plaster, balsa wood and polystyrene chips close to the camera from overhead gantries. Other means of suggesting entropy would include scattering rubble about the set during recording breaks, and quantities of dry ice smoke depicting dust.

Most of the Logopolitan alleyway sets were build from Jabalite, an expanded foam plastic material with very crumbly properties. Huge blocks of Jabalite were carved and put together by the scenic crew, often with sections pre-cut and held together with rods. These rods would be pulled out on cue by stage-hands whenever a section of the city had to crumble. Timing had to be crucial in these sequences. Not only would the cast have to be in their right spots, the stage hands tilting the troughs full of plaster and balsa-wood also needed to watch for their cues.

ChromaKey had an important role to play as green cycloramas would be used as backdrops to many of the Logopolitan sets, as well as the Pharos gantry set - the scene of the fourth Doctor's final demise. Careful matching and lining-up of the live sets with the model stages would give the city a greater illusion of size.



VISUAL EFFECTS: Anticipating the usual requests for "tricorders, guns and communicators", common to most Doctor Who productions, John Horton learned he had only to design one gun for this story, the Master's Tissue Compression Eliminator. The original prop having been lost after TERROR OF THE AUTONS (no visual representation of this weapon appeared in THE DEADLY ASSASSIN) Horton designed the gun from scratch, although he was briefed about its torch-like appearance by John Nathan-Turner. The new TCE was a black, tubular device terminating in a bulb-shape at one end. When the actor pressed the sprung cable-release trigger at the other end, the bulb opened into three petal wings, revealing a battery-powered light. It was an elaborate but fragile prop, and easily broken if not handled with great care.

Miniatures were a big requirement of this show, the most prominent being the Pharos radio dish. This model had to be a large working prop that could be titled to a number of angles. Although not motorised, the model dish was a faithful reproduc-

tion of the Jodrell Bank telescope and stood nearly three feet in height on a circular base. It was designed to sit in the centre of two table-top model stages; the first was an Earth landscape, complete with tiny model railway trees and shrubs. A separate trough filled with larger model trees and shrubs to scale with the existing model TARDIS was put together as a foreground miniature. Positioned close to a studio camera and slightly out of focus, the result would be a false perspective view of the telescope miniature through the foreground foliage, with a gap left for a rollback and mix materialisation of the TARDIS. Due to the need to save money, all modelwork would be recorded in the studio, not on film.

The dish's second resting place was at the rear of the Logopolitan city model. Another table-top set, this again made use of false perspective. Cut from slabs of expanded polystyrene, the city followed Bidmead's brief and was shaped like the dome of a brain; the curved alleyways widening near the camera but tapering away to narrower channels towards the back of the set. Careful consultation between John Horton and Malcolm Thornton ensured the Set Designer's concept of the cells was maintained on the model.

The one-quarter scale police box for episode three was another job allocated to Visual Effects. Having the full-size prop to hand made Horton's job easier in matching the dimensions. Even so, one element the model-makers overlooked was the "Pull to Open" front panel display adjacent to the door handle.

On the full-size TARDIS set, Horton modified the TARDIS console to include the Chameleon Circuit programmer. A standard card-punch keyboard, it was supported on a pair of metal gimbals plus a straightening rod. To accommodate it, a hinged flap was cut into one of the control panels, beneath which were a pair of guide rails. The gimbal rods ran along the guide rails, the whole assembly being hidden behind an extra piece of triangular panelling fitted underneath the console table. Operating the device required a member of the scenic crew crouched down and hidden from view, pushing the keyboard manually upwards from its recess inside the central column and then pulling on the straightening rod to tilt the keyboard into its horizontal position.

John Horton's team also designed and built the two "Cancelling Screen" props; heavy iron tripods welded to sections of air-duct panelling.

MAKE-UP: With Sarah Sutton having long hair, Dorka Nieradzik decided on a shorter look for Tegan. Janet Fielding's hair was cut short at the back and around her ears and then tightened into curls.

John Nathan-Turner's main reason for wanting to pair Dorka Nieradzik with June Hudson was so that the two would repeat, hopefully, the same triumph with the Logopolitans as they had managed with the Argolins.

Make-up received quite a large chunk of the meagre budget available, mainly to afford the number of Make-up assistants and all the prosthetic work required to transform one actor and fifteen extras into Logopolitans. Fortunately none of the scenes featuring Logopolitans were scheduled for Block One, and on the first day of Block Two, only John Fraser had to undergo what was virtually a four-hour session in Make-up to achieve each transformation.

As had Malcolm Thornton, so Dorka Nieradzik picked up on Bidmead's brain motif as being central to this world. As she explained in *Doctor Who Monthly* issue 68, "I wanted them to look as though they had been there for all eternity. That's why I gave them those appliances at the back of their heads which were meant to be their brains. That is what struck me most in the script; they were dealing in numbers all the time. All they do is just sit and chant numbers, therefore the most important feature about them was their brain power... Then I thought the fact that they all live in little caves made them almost monk-like, so I went away with the impression of little monks chanting away in their cells dedicated to their numbers. That's why I wanted them all to look old. You get a much more interesting face with age; they've been around a lot and you feel they're wise".

To make each Logopolitan brain, Dorka Nieradzik and her assistants took several head casts. Most were from casts in stock at the Make-up Department, but with John Fraser, the actor was called in so a specific mould of his head could be made. The next step was sculpting the brain shapes onto the casts. For purely artistic reasons the brains were made wedge-shaped, to emphasise their alien-ness. Moulds were then taken from these sculptures and out of them a set of positives in soft latex rubber were cast, coloured and veined.

On the actor the process began with soaping down and having his own hair concealed under a bald wig. The brain appliance was fitted over the bald wig and glued in place before specially cut wigs of wispy white hair were arranged around the attachment and melded to the artist's own features. Some, but not all, actors were fitted with white goatee beards, and the areas around their eyes were coloured to give each of them a deep-set appearance.

The only other artist to undergo major Make-up was Adrian Gibbs, the actor playing the Watcher. For a long while Adrian Gibbs' performance went un-credited to foster the belief that Peter Davison had played the Watcher all the way through the show. In the event Davison only had to appear in one shot wearing a thin layer of old-age stipple, coloured white.

Adrian Gibbs, on the other hand, had to spend a long time in Make-up each day he was required, which was all five days of recording and all three days of filming.

A cast was made of his head by Dorka Nieradzik, and from this a two-piece latex rubber appliance was constructed. The main part was a tight-fitting veined helmet which pulled over his head and tucked underneath the collar of his costume. The front part of his face was left visible, from the chin up to the bridge of his nose. The second piece, a built-out, veined chin was glued beneath the nose, under the main appliance and onto the upper neck area. The actor's own eyes were hidden behind bulbous lids, similarly his own lips were masked by a crude slit for a mouth. The final touches were strands of cobweb latex spread over the whole mask and coloured a translucent white to match the costume. The aim was to make the Watcher look something like a giant foetus; complete in shape but with very basic, lumpy features.

COSTUME: As with Make-up, June Hudson's main spheres of creative responsibility were the Watcher, Tegan and the Logopolitans. The only restriction she was under was that she could not spend much money.

The basis for the Watcher was a white roll-neck sweater and a pair of bleached white Bermuda shorts. Around these were wrapped layers and layers of loosely fixed white "Tomin" bandaging, which broke up the shape of the actor's body, giving him a lumpy, unfinished look. Detail was not that important since it had been decided the Watcher would only ever be photographed in long-shot, never close-up.

For Tegan June Hudson chose a variation on the

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Fasten
your
Seatbelts

THE CHARACTER of the newest passenger aboard the TARDIS was cemented by her co-creator, Christopher Bidmead by August 11th 1980. Her entry in the Doctor Who Writer's guide reflected John Nathan-Turner's long-held wish to re-introduce a greater sense of vulnerability among the ship's complement, and Bidmead's desire not to fall into the old stereotype of female companions who become screaming wrecks at the first sign of danger.

Tegan Jovanka was the result of very close collaboration between Producer and Script-Editor, and the subsequent lasting popularity of the character an indicator of what might have been had Bidmead and Nathan-Turner's working relationship not ultimately become so fractious.

Her name, nominal occupation and Tegan's country of origin were totally John Nathan-Turner's. These parameters, plus indications that she should be younger and more vulnerable than Lalla Ward's Romana, were handed to Christopher Bidmead to flesh out following their agreement that he would be the author of the last serial.

In interviews conducted some time after leaving the series, Bidmead appears modest about taking credit for devising Tegan's character, opining that much of what was good about the role came from Janet Fielding's interpretation, and much of what was bad stemmed from opportunities missed following his departure.

Reprinted here is Tegan's character profile from the Writer's Guide, her section in which was last revised on October 30th 1980 - the mid-point in Bidmead's writing of the LOGOPOLIS scripts. A point to note is the last paragraph which mentions the initial period the Production Office considered Tegan would stay with the Doctor. It hints that Bidmead already had some idea of the two serials which would follow LOGOPOLIS, and of Chris Bailey's shaping of a confrontation between the positive and negative aspects of Tegan's personality.

TEGAN IS an attractive and intelligent girl of about twenty, whose brash confidence in her own abilities actually conceals inner insecurity, a state of affairs that becomes clear in moments of stress.

On her father's farm near Brisbane, which has its own plane, she became very keen on flying and everything to do with the air. When the opportunity arose for her to do an air stewardess course in England she came over to stay with her Aunt Vanessa.

But having completed the course, her first day as a qualified stewardess was not a success. On her way to her first real flight her aeronautical curiosity draws her into the TARDIS while it is engaged in a particularly nasty battle of wits with the Master, and Tegan finds herself being inadvertently abducted by the Doctor. Characteristically her inner bewilderment at the new situation in which she finds herself causes her to assume an attitude of overweening self-assertion, and she begins to take charge of the Doctor and Adric.

During the course of three stories, Tegan's superficial self-assurance will build until it becomes a real problem for the other two occupants of the TARDIS, and it will need drastic action on the part of the Doctor to put things to rights and show her the error of her ways. She may or may not continue with the Doctor thereafter.

Biographical
1957: Born in Australia, daughter of a scientist
Grew up in Brisbane
Educated: University of Queensland (BA in English & Journalism [or Drama]).
Acted in England from 1977

Theatre
Autumn 1980: *Crown Matrimonial;* tour.
1983-4: *Aladdin;* Princess Hall, Aldershot
The Collector (adaption of John Fowles' novel); Paul Raymond Review Bar
1986: Various parts in *A State of Affairs*; tour; dir. Peter James.
January-February 1989: Macbeth; Duke's Head, Richmond.

Film
Has appeared (pre-1980) in a Hammer horror film - details unknown. [Possibly equivalent with Hammer House of Horror below.]

Television
1979: **Hammer House of Horror** (tv debut).
1981-4: Tegan Jovanka in **Doctor Who**; BBC; regular; prod. John Nathan-Turner.
7-2-84: **Minder**: WINDOWS; Euston Films; dir. Robert Young.
1984: **Murphy's Mob**
1986: **Hold the Back Page**; BBC.
2-11-88: Hospital Doctor in **Blind Justice**: A DEATH IN THE FAMILY; BBC; dir. Michael Whyte.
1991: Attractive Woman in **Parnell and the Englishwoman**; BBC.

Adverts
1991: The Satellite Shop; Sky Television. [Advertising magazine programme]

Medium Uncertain
Modigliani
Time and Time Again

Personal Appearances
26-3-83: **Saturday Superstore**; BBC.
23-2-85: Tegan in **Jim'll Fix It:** A FIX WITH SONTARANS; BBC.

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1950's style of air stewardess's uniforms. The colour she chose was purple; a pale lilac purple for the blouse and shoes, a darker shade for the two piece tunic and pencil skirt. This two-piece suit was tailored in wool, with a softer weave of pale lilac wool used for the fitted collar. Velcro fastened the breast of the tunic along the left hand side of the costume. The hat used the same wool fabric but was lined to give it strength. Not wanting to be seen advertising, Tegan's uniform bore no specifically named airline badges. The only concession was a plain triangular emblem on the hat. Because it had to be pinned in place, the hat was uncomfortable to wear, hence LOGOPOLIS was the only show in which it made an appearance.

The Logopolitans demonstrated the Department's inherent skill at re-using old costumes; in this case the robes seen earlier in the season on the Argolins from THE LEISURE HIVE. These robes, with their high collars, perfectly concealed any Make-up appliance seams and helped to support the weight of the prosthetic brain attachments. June Hudson was able to afford a set of black velvet capes to disguise the robes' true origins and the actors were given black slippers to wear in place of the Argolins' yellow. Being the input/output Monitor, John Fraser's costume was illuminated with a mantle of jewelled brocading in place of the very dark purple shirts worn by the other Logopolitans.

Two additional Logopolitan outfits, a full police constable's uniform, and Auntie Vanessa's feather boa trimmed hat and coat were required in miniature to fit two "Action Man" sized dolls. These would be the victims of the Master's TCE. Unlike THE DEADLY ASSASSIN, however, special heads with detailed faces were made for the dolls to make them look less obviously toys.

LOCATION FILMING: The crisis on THE KEEPER OF TRAKEN had many repercussions for LOGOPOLIS, not least being the bizarre nature of its filming. Originally it should have been a week, but when money had to be poured into a one-day remount of THE KEEPER OF TRAKEN, the schedule had to be hastily revised to just three days. The problem was, those three days co-incided with the only date available for the TRAKEN remount.

An unusual compromise was reached. The LOGOPOLIS crew would begin filming on location Tuesday 16th December. The next day, December 17th, filming would be suspended while Tom Baker and Matthew Waterhouse returned to TV Centre to complete the previous story. Then, on Thursday and Friday, filming on LOGOPOLIS would resume, wrapping Friday afternoon.

Neither was Jodrell Bank the only location to be dropped from the Film Diary. A day at the Barnet by-pass had to be dropped, although not this time due to THE KEEPER OF TRAKEN. Through fan circles both Christopher Bidmead and Peter Grimwade knew that the last police box left in England was situated at a lay-by on the A6, Barnet by-pass near South Mimms, Hertfordshire. Bidmead had even visited the site while planning the storyline. During the location scout Peter Grimwade and his team discovered the box had been vandalised, but reckoned they could patch it up enough for the filming. But shortly before filming commenced, word came through that the box had actually been taken away by the Metropolitan Police and totally demolished in preparation for the M25 arriving at the site over the next eight years.

The police box that dematerialised from the Barnet by-pass

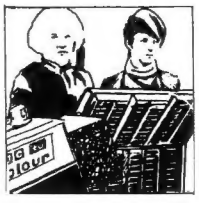
The new lay-by site was on the A413 between Amersham and Denham in Buckinghamshire. The TARDIS prop would have to double for the real police box, which meant digging out of retirement the old prop used from THE MASQUE OF MANDRAGORA to SHADA, held by BBC Enterprises, for the key scene where two police boxes appear in the same shot. As another in-joke to bamboozle the fans, John Nathan-Turner suggested the Set Design crew should dress the lay-by with a sign saying "Barnet Borough Council", which is precisely what they did.

Despite being so close to the shortest day, Tuesday 16th December was a day of glorious sunshine. The first scene to be filmed was the episode one introduction of Tegan setting off in her aunt's car. This took most of the morning to shoot in a West London street, while the scenic crew were busy a mile or so away setting the TARDIS prop up on a barge moored at Cadogan Pier, by the Albert Bridge. Shooting these riverside scenes took up the remainder of the daylight hours and involved some level of crowd control, especially during the Doctor's conversation with the Watcher on the Bridge.

The remaining two days of the week saw less crowd problems. In lieu of Jodrell Bank, the Production crew had found an acceptable replacement in the form of the BBC's own Overseas Monitoring station at Caversham near Reading. Although there was no dish, the venue did provide gantries with ladders, a control room building and a field wherein to erect the TARDIS. Aside from rehearsals this was the first time messrs Baker, Ainley, Waterhouse, Sutton and Fielding had appeared together.

To make up for the lack of a radio dish, the model antenna was brought on location and used in several false perspective foreground shots.

The good weather broke on the final day's filming at the lay-by location. Neither Anthony Ainley nor Sarah Sutton were required, but it was Tom Georgeson's one day in front of the Doctor Who cameras as well as Delore Whiteman's last. In addition to the banged-up M.G. sports car used on the Tuesday morning, the BBC also paid for the hire of a police Rover squad car. For safety reasons the crew chose not to deflate totally the driver's side front tyre on the M.G.. as Janet Fielding and Delore Whiteman had to drive the vehicle part way along a public highway. A sound effect, added during the dubbing sessions, would provide the appropriate noise of a flat tyre.



STUDIO RECORDING: The Christmas break produced a longer than usual gap between comple-

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CRAIG HINTON and PETER LINFORD watch the Doctor's nemesis play the regeneration game - but was it nice to see him?

Modern Master-Piece?

ALTHOUGH **Doctor Who** is best known for its plethora of monsters, the most popular stories often seem to be those where the villainy is distilled into one character: Mavic Chen, Tobias Vaughn, Omega, Magnus Greel, Morgus, the Valeyard, Helen A, to give one example from each Doctor. Even the Daleks suffered a surge of popularity when they were given Davros as a front-man capable of emotion.

Couple this with the benefits to be had from a recurring character - audience recognition, for example - and it was only a matter of time before one production team or another decided to create a regular adversary for the Doctor. There had been one previous attempt, but the Meddling Monk's more humorous portrayal tended to undermine any true threat. And William Hartnell's evil *Son of Doctor Who* doesn't really bear thinking about.

If you read any of the countless articles written about the genesis of Season Eight, you'll undoubtedly come across some reference to the production team's desire to create "a Professor Moriarty to the Doctor's Sherlock Holmes" - ironic, when you consider that Moriarty only appeared in one short story. But their intention was clear: a regular villain on an intellectual par with the Doctor, with the inevitable conflict that would ensue. The result, carefully delineated by Robert Holmes and played to perfection by Roger Delgado, was the Master.

The name says it all: superiority, an arrogant contempt for others, a self-assuredness of his own abilities. But that could cover a multitude of enemies seen before, such as Vaughn or Salamander. What made the Master special was the hint of a prior relationship with the Doctor, and the fact that he too was a renegade Time Lord, with his own TARDIS and a similar knowledge of the universe.

From his first appearance in TERROR OF THE AUTONS - where he played the Channing role in this virtual remake of SPEARHEAD FROM SPACE - the hallmarks were set: a sadistic wit, bizarre weaponry - namely the tissue compression eliminator, and the tendency to panic when the odds were stacked against him. But these were merely the foundations: Delgado fleshed them out with a rounded characterisation to the point where the Master was a complex man of conflicting emotions.

Some might argue that by Delgado's final appearance in Frontier in Space, there wasn't much more to be done with the part. Yet the same argument could equally hold for each version of the Doctor. There are always new directions, as Tom Baker's tenure demonstrates. But Delgado himself had decided that the time had come to finally resolve the conflict, and it was agreed that the Master would bow out in the final story of Season Twelve, where he would sacrifice his life to save the Doctor's, revealing on the way that the two were brothers, a logical development that made their rivalry all the more understandable. Tragically, things didn't work out that way. Delgado's untimely death was one of the triggers which led to the breakup of the "Pertwee family" and a whole new direction for the series - without the Master.

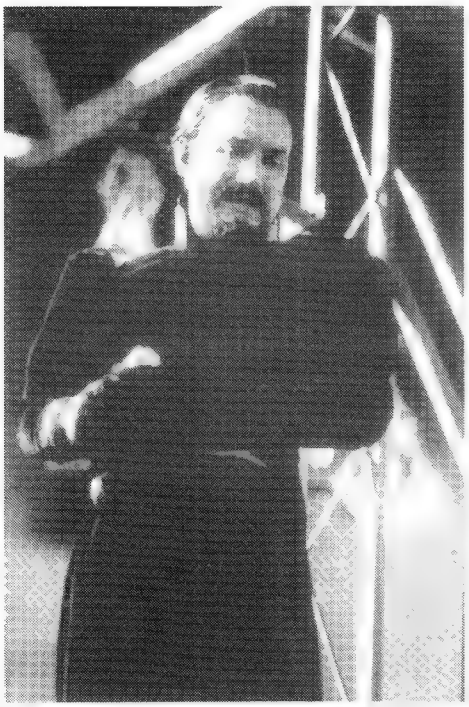
Years later, the Master would return. Stripped of his thin veneer of respectability, Peter Pratt's portrayal exposed the rotten core, the evil that motivated the character. Geoffrey Beevers summed it up in the last issue of *IN•VISION*, where he described the "cringing inner self... inadequate without its public face". This interim version of the Master was the epitome of the saying that beauty is only skin deep: without the benefit of his surface charm and sophistication, the Master was nothing more than a cadaver, animated by the basest of emotions - revenge, hatred, fear of death. Indeed, one could argue that Peter Pratt's character wasn't the Master,

merely his core essence, desperate to acquire the power necessary to enshroud himself in everything that summed up the Master - the surface gloss.

Although the closing moments of THE DEADLY ASSASSIN suggested that the Master had absorbed sufficient energy from the Eye of Harmony to regenerate, THE KEEPER OF TRAKEN proved otherwise: if anything, the Master was even more decrepit that before. As his looks faded, his originality did likewise: in both stories, the Master uses a member of the ruling classes to give him access to a source of unimaginable power. He also frames the Doctor for murder, and is only thwarted when the Doctor uses a quirk of the law to provide a respite. But while the Doctor leaves Gallifrey knowing that his adversary is now free, he leaves Traken convinced that he has finally vanquished his foe. How wrong.

Why the power of the Source was insufficient to fully regenerate him may always remain unknown, but there was enough to enable him to project his core essence into the basically kindly form of Tremas. That Tremas was a decent sort was never in doubt: would the Keeper have chosen him as his successor otherwise? How ironic that must have been for the Master, corrupting the ultimate family man and remoulding him in his own image.

On the surface, Anthony Ainley's Master didn't differ much from Delgado's: the neatly trimmed beard, the elegant clothing. As he re-entered his TARDIS, the viewer could be excused in expecting a return to the "original" Master. Hadn't the Master's prime motivation on both Gallifrey and Traken been a desperate attempt to recreate a dominant facade to hide his terrified, insecure persona?



The differences between the "first" Master and this portrayal soon became apparent: the tissue compression eliminator made very few appearances in the Pertwee era, and yet by LOGOPOLIS it had become "the calling card of the most evil genius in the universe." Whereas Delgado's *noms de guerre* were clever plays on the meaning of his name - Masters, Magister, Thascales - Ainley chose the anagrammatic Estram (and, I suppose, Tremas) and the quite ridiculous Khalid and Portreeve. Furthermore, these were disguises rather than aliases, relying on external forces such as block transfer computation, the Xeraphin, and possibly Kamelion in THE KING'S DEMONS.

Of course, there are also the nefarious schemes and strategies that each Master calculates. Delgado's Time Lord was almost always to be seen as an *eminence grise*, hiding behind the skirts of some other aggressor - the Nestene Consciousness, the Dæmon Azal, even the Daleks - who would always turn on him before the last reel. Even when he started off as the major protagonist, such as Professor Keller in THE MIND OF EVIL or Professor Thascales in THE TIME MONSTER, he would end up as a latter-day Pandora, letting loose forces that even he could not contain. And then who would he come running to?

With Ainley, things were quite different. His motives in LOGOPOLIS were base to the extreme: revenge and blackmail. Fatally misunderstanding the pivotal role that Logopolis held in the cosmic balance, his scheme to destroy the Doctor backfired and started the terminal unwinding of the universe. But after initially turning to the Doctor, his almost primal drive for power led him to attempt to hold creation to ransom. But while this was going on, other plans were forming - plans that would result in nothing more than the Doctor's death. It was as if the Logopolis situation was an opportunity too good to miss.

With only the briefest of exposures to both Adric and block transfer computation, he had formulated Castrovalva solely to destroy the Doctor. Compared with the months that he spent building up his Keller, Magister and Thascales roles, this *opportunism* showed a desperation that had been previously absent. This desperation continued when his TARDIS needed a new power source, demonstrated by the convoluted plan he came up with to secure that power. Even his bizarre masquerade as a grotesque sorcerer is explained as the malign influence of the Xeraphin in Peter Grimwade's novelisation of his own screenplay.

And then it all went rather awry, almost

as if the Master's fragile grip on sanity had loosened considerably. After holding the universe to ransom with an irresistible wave of entropy, he attempts to prevent the onset of English democracy. The bathos is overwhelming, especially considering that he deliberately arranged for his arch-enemy to be there. In THE DEADLY ASSASSIN, the Doctor was drawn to Gallifrey to draw attention from the Master. In THE KING'S DEMONS, and later in THE MARK OF THE RANI, the Doctor's presence can only serve to hinder the Master's success. Does the Master fear failure so much that he grabs the Doctor in order to blame him if everything goes wrong? Or was the King John escapade merely an entertainment while waiting for the Doctor? If the Master seriously thought that he could use Kamelion to become emperor of the universe, it was a bit like the pot calling the kettle black when he told the Doctor that his "will is weak".

During Delgado's tenure, one got the feeling that the Master's ultimate aim was power, and if the Doctor become involved and was humiliated and killed in the process, then so much the better. With Ainley, revenge and escape became the watchwords. Revenge on the Doctor, escape from prehistoric Earth; revenge on the Doctor, escape from being one inch high; revenge on the Doctor, escape from Rassilon's elaborate trap... The only reason that he seems to have involved himself in the TRIAL OF A TIME LORD appears to be his horror at the prospect of the Valeyard inheriting the Doctor's mantle: if the Master failed against the Doctor, what chance did he stand against the same character without moral scruples? Especially since it is more than likely that the Master would have been first on the Valeyard's hit list.

The other major difference is that Ainley's Master faced three different Doctors, excluding his casual dismissal of the first in THE FIVE DOCTORS. With Davison, it was almost as if he enjoyed baiting the "galactic boy scout", outraging the Doctor's prim and proper attitudes with his depravities. With Baker, it was the conflict between moral and intellectual opposites, more like the two Academy graduates that they were once supposed to have been, than polarised good and evil. One felt that the winner would be the Time Lord who won the argument, rather than the one who vanquished the other. And with McCoy, it was something quite different again: in SURVIVAL, the Master is fighting for his very personality against the force of the Cheetah Planet, and yet he almost finds a kindred spirit in the darker, increasingly amoral Seventh Doctor. "If we fight like animals, we die like animals," screams the Doctor, having spent the entire season playing dirty pool with friends, enemies and companions alike.

As mentioned earlier, the Master must have found Tremas irresistible as a conquest: pure, honourable, the heir to an empire founded on "people just being nice to one another". But the consequences were quite unexpected. He could no longer regenerate, and he seemed driven by the petty concerns of those creatures beneath the Time Lords - primarily revenge. Perhaps, in taking over a Trakenite body, he shrouded his cringing, inadequate soul with a mere mortal's existence, and soon found it impossible to stop his baser instincts from leaking through. Certainly, his dignity and self-assuredness were soon replaced by a panicked desperation quite unbecoming a Time Lord, and an opportunism more like Drax than the Master.

The new Master spent his time trying to recover that which he had lost, be it a new regeneration cycle, his normal size, or his very soul, and although he was always meant to be the villain, it was too easy to see him as the victim. In a series where the heroes exhibit character flaws, a villain doing the same would have been ideal. In **Doctor Who**, where - until the very end - the hero was whiter than white and the bad guys wore black hats, there wasn't any room for Gallifreyan angst.

As the deal with Amblin hangs in the air, the only outlet for original **Who** is currently Virgin's *Missing Adventures* and *New Adventures* ranges. Let us hope that Delgado pays a visit to the former, while the latter contrive a way to regenerate the Master into a Time Lord body capable of holding his baser emotions in check. Perhaps their belligerent Ace can blow him away?

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Continued from page 10

tion of filming and the start of the first studio recording block. In all, just under three weeks elapsed before the seven required members of the cast gathered together in TC3 for the first scenes of LOGOPOLIS.

By all accounts it was a rather subdued affair. No-one, least of all Tom Baker, was unaware that this was the end of an era. In particular, it was the end of his era. Six years on from the first broadcast of ROBOT, the final story of the Baker era was being put in the can. Perhaps not surprisingly Tom Baker was not in the happiest of moods throughout this studio. Even a stern disciplinarian like Peter Grimwade found it difficult coping with a lead actor determined to stomp around between takes complaining about being cast alongside companions whom he regarded as little better than "kids". "Where's the class these days?" he complained bitterly, if fruitlessly, to anyone who cared to listen.

Nevertheless Day One went ahead on January 8th 1981 with most of the TARDIS interior scenes ending up on tape. To a degree LOGOPOLIS was shot in some semblance of story order. The first scene recorded was the opening dialogue between the Doctor and Adric in the Cloister Room, followed sequentially by all the scenes in the Cloister Room. Throughout Grimwade made very effective use of his five cameras, rarely wishing to linger on a shot any longer than he had to. It meant a lot of extra work for the cameramen; constantly having to refer to their scripts in order to position quickly their views and angles ready for their next shots. Frequently, if time and the running order would permit, Grimwade would record additional establishing and tracking shots for possible use as cutaways or Quantel inserts during post production.

Next it was the turn of the TARDIS control room. Being the shorter of the two recording days, the remainder of January 8th was filled up with doing all the scenes in the control room under normal lighting conditions, as well as some of the model shots, which tended to be slotted in during live action recording breaks. For the episode three scenes of the Doctor inside a shrunken TARDIS, one of the cameras was fitted with a fish-eye lens and tilted towards the floor to give the picture an appropriately distorted look. Shots of the scanner were done as separate cutaways. The views of Logopolis on the screen would not be shot until Block Two, so the finished composites could not be assembled until the post-production phase.

Day two, a full twelve hour session, began with the remaining control room scenes that had to be done under low lighting conditions, depicting the various TARDIS simulacra the Doctor and Adric cross through.

Completing these, the team moved over to shoot all the scenes in the rooms off the main Pharos computer room. The full computer room set was not required until Block Two, so only the ante-rooms and corridors were shot this day.

The main work of the afternoon and evening was spent doing all the episode four footage in the radio dish control room, and "outside" on the adjoining gantry. Nowhere near as simple as it later appeared on screen, the gantry externals required a lot of complex setting up and timed actions during recording. In particular, the memory store facility of the Quantel 5000 was needed to capture and store certain static pictures (for example, the Master peering from the control room doorway, watching the Doctor's progress crawling along the catwalk) so they could be inlaid onto the ChromaKey backdrop that made up the rear of the catwalk set. After that, the tilting movement of the camera recording the Doctor on the gantry had to be synchronised precisely with the tilting of the static image of the Master, so that the effect achieved was the desired one of the background staying steady while the catwalk appeared to move.

Other gantry shots required equal precision lining up a crane-mounted camera's perspective of the catwalk relative to a caption slide's perspective of the ground far below.

In preparation for this day's recording John Nathan-Turner had asked Ian Levine to furnish two short pre-recorded pieces of footage for use as inserts into the final episode. The first was a montage of the fourth Doctor's enemies, the second, his friends and companions. The key word each character had to speak was, "Doctor", although the decayed Master was allowed an additional, "Predictable as ever...", and the Black Guardian, "...You shall die for this".

Assembling this material - which was provided by Levine on a U-Matic cassette - took a lot of time and research as each character had to be in solo close-up, with no other characters visible in the background for clearance reasons. This criterion determined which of the Doctor's enemies were included and which were omitted, but it made selecting companion close-ups harder as all of them had to appear. Of them all, the Brigadier proved the most difficult as a suitable shot did not appear in ROBOT or TERROR OF THE ZYGONS. Searching backwards Levine eventually located what he wanted from INVASION OF THE DINOSAURS.

Even then, this was not the end of the story as the appropriate vocative calling out of the word "Doctor" by each character occasionally had to be found in clips other than the ones used for the close-ups. This was true for K-9 - whose dialog had to come from THE ARMAGEDDON FACTOR when under the influenec of the Shadow so he referred to the Doctor as "Doctor" rather than "Master," which could have been somewhat confusing. It was also true for the Pirate Captain - more obviously so as the close-up used had him rolling his eyes with a thermometer (or similar medical instrument) clamped in his tightly-shut mouth.

January 9th was Peter Davison's first formal appearance in a **Doctor Who** studio, although he had sat in as an observer during Day One recording. His first assignment was to have white foundation, powder and ageing stipple applied to his face and hair for his camera debut as a not-quite-so embryonic version of The Watcher.

The grass set scenes at the foot of the Pharos tower were virtually the last to be recorded in Block One and, typically, Tom Baker's grumpiness was in top form as he was forced to face his moment of exit from the series. Earlier he had had a blazing row with his Producer and Director, both of whom had insisted he should scream as his hands let go from the catwalk supports. Baker had adamantly refused to do this. John Nathan-Turner had other ideas, promising that one way or another the Doctor would scream as he fell from

BBC Publicity for LOGOPOLIS

The model of Logopolis, complete with its own Pharos Project

the tower.

The regeneration itself was a four-phase operation requiring three rollback and mix shots from a locked off camera. The point of reference Peter Grimwade used to line up his shots were the eyes of the three actors involved; firstly Tom Baker, then Adrian Gibbs, next Peter Davison in make-up and Watcher bandaging and finally, after a break for cleaning up and a change of costume, Peter Davison as himself wearing the Doctor's garb. The closing shot of the Doctor sitting up was an on-the-day inspiration.

The Quantel 5000's frame store proved itself an invaluable aid to lining up actors for the regeneration. Being able to flick between a stored image of the previous shot, and a live action view from the locked off camera enabled almost perfect positioning of the artists. Earlier the Quantel's image manipulation function had been used to squeeze a ChromaKey shot of the Watcher as he moves towards the Doctor to complete the moment that had been prepared for.

The three day second studio began on January 22nd in TC6. John Fraser and all the extras playing Logopolitans joined the cast, as well as Robin Squire playing the un-named Pharos Technician.

Leaving Costume and Make-up to get on with the business of preparing all the Logopolitans, Peter Grimwade concentrated firstly on all the scenes inside the Pharos computer room on Earth, which would have different lighting needs to the same set on Logopolis.

Some additional gantry close-up shots featuring only the Doctor followed. These had been left over from block-one and included recording of the "Doctor's Enemies" montage. There was no time to arrange complex ChromaKey work for these shots and so all the scenes were done close up against the ChromaKey **screen with just a** minimum of gantry scenery and a ChromaKey inserted sky background.

The main bulk of day three centred around the streets and alleyways of Logopolis, plus some work on the "landing area" set. As per the script, the sky above the city was a rose tinted pink, the colour being fed to the backdrop using ChromaKey.

The next day saw action continuing on the "landing area" set, plus scenes in the central register and the Logopolitan version of the Pharos computer room. In all cases the sets were in their cleaned up state prior to the effects of entropy. BBC and Press photographers were on-site for a photo-shoot, this being their first real opportunity to snap Janet Fielding and Anthony Ainley in their regular costumes. Of the photographs taken that afternoon, three were selected for the official BBC promotional colour post-cards of Nyssa, Tegan and the Master.

A few technical hitches plagued this middle day of recording. The shrinking of the TARDIS by ChromaKey took several takes, as did Janet Fielding's scene where she has to manoeuvre the sound cancelling projectors. Some of the scenes in the External Register set needed several reruns as it was important to line the camera's perspective up precisely with the perspective of the backdrop at the rear of the set.

Of all the recording days, Day Five had the least number of scenes scheduled, however they were the most complex as they involved the destruction of Logopolis. Overnight most of the sets had been strewn with fake rubble, some to a greater degree than others to demonstrate the worsening effects of entropy. Latex cobwebs had been applied to parts of the computer room, and sections of the set had been removed to reveal jagged openings out onto a backdrop which would be electronically coloured to match the rose-coloured sky. Even the Logopolis model stage had been treated with a bag of fine sand spread out over it to show the city turning to silt.

All the destruction scenes had to be carefully choreographed so that smoke, rubble falling and sections of set giving way all happened on cue. The actors too had to rehearse carefully their movements to avoid any risk of accidents.

The calcified Logopolitan, who is shown partially crumbled to dust inside his cell, was an Effects prop. It required one of the same rigs used to collapse the bodies of the vampires in STATE OF DECAY (see ***IN•VISION*** 49), although re-dressed with a Logopolitan robe for this serial. For his death scene, John Fraser was partially draped in ChromaKey **material, the same colour as the backdrop beyond the set. Rollback and mix** achieved his final dissolution.

A scene from part four, the Doctor pulling a fallen slab of masonry off the Master was the final shot of the day. By all accounts, recording completed in time to make the 22:00 deadline on Saturday 24th January. This was Tom Baker's last day on a Doctor Who stage at Television Centre. After changing out of his costume he joined some of the rest of the cast and crew for a drink in the TV Centre bar before going home. For him LOGOPOLIS was over, as was any involvement in **Doctor Who** work for the remainder of the Eighties. An era had come to an end.

ELECTRONIC EFFECTS: LOGOPOLIS may have been over as far as the cast were concerned, but for others there was still a lot of work to do. In charge of Video Effects was Dave Chapman. Among his equipment for this serial was a newly installed ACORN/BBC Micro Computer. Chapman used this to create the crude animations called up by the Doctor in part one as he demonstrates the dimensional reconfiguring capabilities of the TARDIS. The pyramid with a TARDIS appearing in the centre, and the outline drawing of the police box that appears on the scanner were all products form the BBC Micro.

Throughout production Chapman had access to a Quantel 5000, without which so many of the technical shots in LOGOPOLIS would have been impossible. A key one was the shrinking TARDIS in part three. An easy ChromaKey shot to do mechanically, it was made complicated by a script requirement for the ship to "fluoresce" as it reduced or got larger. To do each shot meant putting a softened electronic matte around the TARDIS to the shape of the police box, and then filling the space inside with a generated colour pattern. The trick was changing the shape and size of the matte exactly in time with the camera focused on the TARDIS pulling back or zooming in.

Soft focus electronic borders were also put around the two clips tapes of the Doctor's enemies and companions.

The precise sizing and shaping capabilities of the Quantel were pressed into use for all the shots that had to appear lined up on the TARDIS scanner screen.

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It's the End

PETER G LOVELADY explores the philosophical depths of Tom Baker's last story in a review first published in the 1979-81 DWAS Yearbook

TOM BAKER's last words neatly summarise the whole of the eighteenth season in a way. The regeneration was simply the ultimate step in a programme of change which began with THE LEISURE HIVE. The series had gained a new impetus, the Doctor a new insight. This change continued throughout the season, with the shedding of old companions for new, and the inclusion of a degree of sophistication not witnessed in years of **Doctor Who** history. Christoper Bidmead's task of providing the climax to the season was a difficult one. As script editor of the time he was perhaps the only possible choice of writer. Every story of the season, whilst very individual, had a subtlety about it, and as it turned out, LOGOPOLIS was the subtlest of them all.

The story opened with a tight shot of what appeared o be the TARDIS. It turns out to be a police box, but then becomes a TARDIS. Even at the start, we are being warned that things may not always be what they seem. There is certainly a good deal of symbolism in the story. The Doctor's unobtrusive hat stand had, for the remainder of the season, supported his old coat and scarf - a strong link with the past. In LOGOPOLIS it was bare. The Doctor shuts the door on Romana's room - and later jettisons it - saying, "The future lies this way." Again he is shedding his past. The whole story is permeated with an air of change.

To good effect the TARDIS is used as a powerful metaphor for the Doctor. It is getting old, like its pilot. Indeed, the Doctor even talks of repairing the Chamelion Circuit - the device which allows a change of appearance. As we explore the TARDIS, so we seem to uncover more of the Doctor's character. His own observation that he has never chosen his own company was particularly poignant, and indicative of his growing weariness.

Whilst the underlying theme is that of change, Bidmead gives us the classic analogy of regeneration. The symbol of good giving himself up to save the world from evil, and then given a new lease of life - resurrection. The writer is carefully building up the story towards the regeneration and even the Doctor gives it away when he says: "I'm going to stop him if it's the last thing I do." The most substantial pointer to the regeneration was, of course, the Watcher - the personification of change.

Throughout the first three episodes we are led to believe that the Watcher is somehow the Master, mainly through Adric's presumptions. And yet, even when Nyssa proclaimed the truth in the closing minutes, the Watcher's origins were left obscure. As with WARRIORS' GATE, the seeds of explanation are sown early in the story. On Albert Bridge in the second episode, the Watcher explains to the Doctor about "the chain of circumstances that fragments the law that holds the Universe together." This is the key to the climactic scene in the third episode where the Monitor explains the function of Logopolis: "Logopolis is the keystone. If you destroy Logopolis, you unravel the whole causal nexus."

"You're interfering with the law of cause and effect," warns the Doctor. By interfering with the working of Logopolis the Master disturbed the causal nexus - the bond between cause and effect. The Doctor's fall from the Pharos transmitter was the *cause* of his regeneration, and its intermediate, the watcher. But since the law of cause and effect had previously been suspended, the *effect* - the Watcher - occurred before the cause, which explains his appearance in the opening episode.

The idea of a causal nexus is of particular significance when

another aspect of the story is considered. In the last century, a leading proponent of the idea was the biologist Thomas Huxley. In Logopolis the Doctor refers to him as "my old friend Huxley, and even quotes from one of his lectures ("The chessboard is the Universe...").

A rival of Huxley's, though not a contemporary, was Ludwig Wittenstein, who, in the light of the new Quantum Theory and Heisenberg's famous Uncertainty Principle proposed that Huxley's underlying tenet may not always hold. "Superstition is belief in the causal nexus," he wrote. This is echoed in the Master's dismissal of the Monitor's protests: "Causal nexus - you insult my intelligence."

It is interesting to note that the Watcher can be justified by either theory, but the idea of transposing these two philosophies on to two characters is fascinating.

One definite plus of the season was a scientifically literate script editor. This came through particularly well in FULL CIRCLE and THE LEISURE HIVE. Here it was mainly the use of *real* scientific terms, similar to the amino acids in the marsh spiders. In WARRIORS' GATE we began to see a greater departure from established science, and an excursion into the grey area of popularised relativity with the use of *time lines*. In LOGOPOLIS we have already seen how one aspect of the story has deep roots in established, if esoteric, areas of philosophy, but the story is crammed full with a subtle mix of fact and fiction.

Block transfer is a particularly successful example of how Bidmead knits fact and fiction to produce a very believable framework round which to build a story. Fascinated by the way in which a computer treats numbers as commands, the writer created a place where numbers could not just direct computers but could affect the physical world. In order to sell the idea to the audience, he expanded the computer to the size of a planet and introduced the Logopolitans.

It is here that the skills of June Hudson and Dorka Nieradzik came into play to provide some excellent costumes and make-up, adding that final touch to make the atmosphere complete. Then, with the subtle mixture of computer terms, and even the use of the hexadecimal number system used by computers, he created the magic city of words - Logopolis.

The beauty of Bidmead's block transfer computation lies in its basis: "Structure is the essence of matter, and the essence of structure is mathematics." That is a very astute and succinct observation on nature, and something which surely defeats any argument that **Doctor Who** is purely a children's programme.

The other principle which has been making guest appearances during the season is the second law of thermodynamics, now in a star role in LOGOPOLIS. Entropy can be described as the mathematical formalism of change and decay. And since the underlying theme of the story was change it is only right that it should feature. The problem, of course, is that thermodynamics is often only touched on at advanced level. But Bidmead, through numerous analogies throughout the story, got the idea across with a reasonable degree of success. Again, in one of his succinct axioms, the Doctor neatly sums it up: "...It's the age old battle, isn't it? Entropy versus structure," which echoes the Monitor's earlier plea: "You are eroding structure, generating entropy."

Built on three solid scientific principles, the story was destined to be a complex one. The first two episodes were predominantly scene-setters, with a climax in the third and resolution in the last - it's quite a while since the Doctor had to save the Universe from certain death. But one of the winning points of LOGOPOLIS must be the return of a new Master. At last it seems that the Doctor has again met his intellectual equal. To the Doctor's call that that his action might mean the end of the Universe, he replies: "I've never been persuaded by hyperbole, Doctor."

Their co-operation following the demise of LOGOPOLIS was very reminiscent of THE CLAWS OF AXOS. Bidmead has given us the old Master, and yet he is different. He seems to be more of a showman, swaggering about, exuding absolute confidence in his control device. The Master still retains his vanity, however, when dusting himself down to shake hands with the Doctor. He proffers the dusty glove, of course. But at the end it is his vanity which gives away his plan, just as in the old days. Anthony Ainley has very skilfully created a new Master for us - one who looks set to oppose the Doctor many more times to come.

The thing which made the story most popular was undoubtedly the regeneration. Its presentation was the epitome of the style we have come to expect, and for me the blend of effects and music for the flashbacks made it one of those magic moments of **Doctor Who**. In fact the production in general had its high points and low points.

The visual effects were, frankly, disappointing for most of the story. The need for a model of the Pharos Project transmitter in the last episode was apparently born out of a reluctance on the part of the Jodrell Bank officials to get involved in a fictional series. What was served up instead was poorly done, with the budget probably going in royalties to the stars of the flashback. VT model work never seems to work, and it didn't work here. It was also badly edited with live action footage, the most painful example being the landing of the TARDIS at the Pharos transmitter. We plainly see the ship land in front of the dish, but when Adric operates the scanner we get a lovely view of the back.

The runaround at the end was also a little confusing, again showing some disparity between live action and model shot. But Grimwade otherwise coped well with the studio shots of LOGOPOLIS. Imaginative shots of the 'f' shaped Logopolitan street gave the impression of size, especially during the collapse of the city.

Paddy Kingsland deserves some praise for his lively radiophonic score. From the vague and distant tones of the Watcher's theme to the regal and precise tones of Logopolis itself, he proved the worth of radiophonic incidental music beyond doubt. Very strong on themes, he subtly interpolated the **Doctor Who** theme itself into that of the Watcher when the Doctor first sights the figure. He even took the trouble to use Romana's theme when the Doctor stumbled upon her room - a nice touch.

In such a complex story as this, the cast must necessarily be small. Most of the characters were incidental, but Aunt Vanessa, played admirably by Delores Whiteman, provided some light relief in the first episode. Tom Baker turned in a winning performance as the Doctor, crowning a season of good quality acting on his part. Young Waterhouse still managed to mis-cue the special effects, although he did manage to get some lines.

In fact, all the companions did reasonably well out of it. Nyssa's novel introduction in the previous story meant that more time could be spent on Tegan and her reaction to the TARDIS and its crew. Janet Fielding managed to convey natural aversion to the apparent squalor of the Logopolitans' humble existence well - it's refreshing to see *someone* suffering from culture shock.

John Fraser was the perfect choice for the Monitor. With make-up and costume his formidable bearing took on an added, mystical mien required of the part.

With the re-appearance of the Master and Baker's emotive regeneration, LOGOPOLIS couldn't fail to win a place in the hearts of fans. In this respect the story has perhaps failed. There is so much detail woven into the story, so many well thought out ideas poured in, that they may have been vastly overshadowed by these two events. Without them, the story would not work at all. But with them, the other elements fade into the background, unnoticed and ignored. Many have remarked on the esoteric nature of the ideas behind the story, but despite that awareness, LOGOPOLIS remains a very misunderstood story.

But the moment has been prepared for

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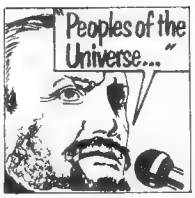
These included film as well as video footage, plus even a caption showing a map of the Thames.

The most unusual shots the Quantel 5000 enhanced were the sequences where the Watcher takes the TARDIS out of normal space/time to give Nyssa and Adric what the script refers to as, "God's View of the Universe". Instead of a standard zoom-in or pull-out, Chapman set the machine to diminish the image leaving a black background visible; an effect used predominantly in news programmes or pop videos. Setting a delayed decay on the central image meant the picture left a residue behind it as it shrank. The "negative effect", as reality "stabilised", was the old camera trick of over-exposing the picture; one of the oldest electronic effects used in Doctor Who.

The black entropy cloud, which is seen engulfing so many star systems, was a soft focus electronic wipe of an equally soft focused polygonal shape, mixed over star-scape caption slides. The solar system and "whole universe" slides were specially done for LOGOPOLIS but the Traken Union slide was a direct lift of a frame from THE KEEPER OF TRAKEN.

For the opening scene of the Master's TARDIS surrounding the Barnet police box, Chapman made a straight copy of one frame of the scene into the Quantel's frame store. He then created a circular electronic wipe inside the original picture and switched the output so that the camera saw, in place of the wipe shape, the picture from the frame store. By twiddling with the sizing controls on the Quantel, the image inside the circular hole was made to jump and wobble.



SPECIAL SOUND: As well as totally synthesiser created radiophonic sounds, Dick Mills also used natural sounds for some of the effects he was asked to manufacture. One of the more memorable of these was the TARDIS Cloister Bell which had as its origin the sound of a large gong being struck, and then dipped into water to deaden its reverberations. That recording was then treated to make the sound deeper and more hollow.

A Vocoder provided a means to realise the sound of Logopolitans chanting. Whispered gibberish by Mills was recorded and then multi-tracked, sometimes slower, sometimes faster, until a whole chorus of whispering was generated. One requirement was that the volume of chanting should diminish perceptibly as the Master embarks on his campaign of killing the Numberers.

The original sound effect for the Master's TCE weapon, a high-pitched hiss, had been created by Brian Hodgson for TERROR OF THE AUTONS. Totally unaware that this device had been seen in the series before, Dick Mills came up with a warbled whoosh sound for its re-appearance ten years on.

Library stock came in useful for the sounds of Logopolis disintegrating. As background atmospherics during these episode four scenes Mills dubbed in the sound of a wooden ship's creaking timbers coupled with the noise of pack ice being broken up by an icebreaker. Similarly, the engine noises of the tilting Pharos dish were from library stock.

The landing area on Logopolis

Probably the most curious sound effect Dick Mills had to add to the soundtrack was an electronic scream in part four. Unable to persuade Tom Baker to shriek as he fell from the Pharos gantry, John Nathan-Turner had no option but to ask the Radiophonic Workshop for a suitable shriek.

MUSIC: Unusually for a Doctor Who, LOGOPOLIS used a short piece of classical music as part of its soundtrack. The piece in question, played over the establishing shots of the Pharos Project on Earth and audible through the headphones of the technician's Walkman, was part of the first movement of Schubert's *Unfinished Symphony*. Its inclusion was intended to complete an earlier exchange between the Doctor and the Master as they study the Monitor's computer printouts. Pouring over the figures the dialogue should have gone:

MASTER: This is speculative. It isn't even finished.
DOCTOR: Neither was that symphony of Schubert's, but it still commands a certain following.
MASTER: A trivial work.
DOCTOR: With that finale! (The Doctor hums a sample)
MASTER: We won't quarrel over it Doctor. We have our own finale to worry about.

For whatever reasons a lot of on the day script changes were made during the last recording block. This dialogue was lost, as was a note of recognition from the Doctor as he hears the music on the stunned technician's earphones, but the passage of music was still retained and added to the soundtrack during the dubbing sessions. Perhaps Bidmead's stage directions in the script point to the answer:

"The technician is slamming a coin into a coffee machine. With our knowledge of the imminent dissolution of the Universe, this homely action, orchestrated by Schubert, is a poignant reminder of all we are about to lose."

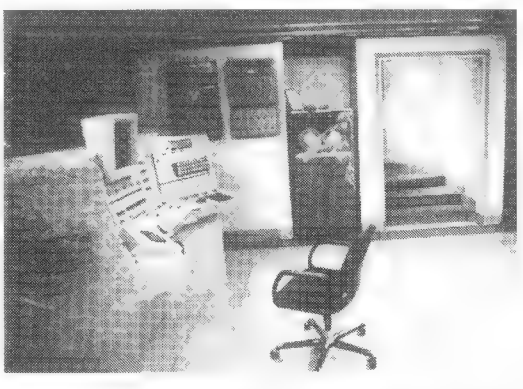
Freed from his responsibilities to *The Hitch Hiker's Guide to the Galaxy*, Paddy Kingsland returned to Doctor Who to compose the rest of the incidental music for LOGOPOLIS.

Branching out from his previous reliance purely on anonymous synthesised sound, Kingsland opted here for a wider range of instrumentation, although always with a "radiophonic" accompaniment.

The most recognisable theme is the Watcher's. A doom-laden piece in four/four time, its central element is a repeated two-note expression that sounds very harpsichord-like in presentation.

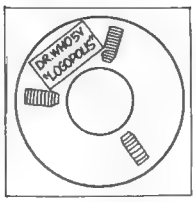
For the chase scenes on Earth, Kingsland composed a pacey guitar melody to give the feel of action and movement.

In recognition of Ron Grainer, who passed away while Kingsland was completing the incidental material for part four, the composer deliberately played out the regeneration scene with three notes from Grainer's Doctor Who theme. These three notes were not repeated when Kingsland was asked to re-arrange that piece for the



The Pharos computer room, recreated as a block transfer computation on Logopolis

reprise from LOGOPOLIS that would lead in to CASTROVALVA. John Nathan-Turner's stipulation was that the play-out to LOGOPOLIS should be sad; a kind-of lament at the loss of the longest-ever Doctor. The CASTROVALVA prelude, on the other hand, would be up-beat, reflecting the dawn of a new Doctor.



POST-PRODUCTION: A four-hour tape to tape transfer day saw work re-commencing on LOGOPOLIS just three days after recording had finished. This was in preparation for the eleven hour gallery only day scheduled next morning in TC6.

During the gallery day, the end credits sequence for part four was re-edited and re-mixed to take out the focused image of Tom Baker's Doctor. Although a new title sequence was still some month's away, the Producer felt this was the start of Davison's era - hence the removal of the face and an entry in the credits for Peter Davison as the Doctor.

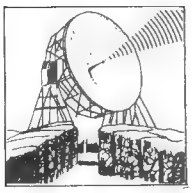
A big feature of post-production on this serial was voice over-dubbing. A sadistic chuckle was to be the signature of Anthony Ainley's new Master, which meant a lot of out-of-vision over-dubs for episodes one and two.

Adric's lines were treated with additional reverberation in the scene where he realises the Watcher is piloting the TARDIS out of normal space/time.

Editing began on Thursday 29th January. Two days were allocated for part one due to the amount of short scenes on film that had to be interpolated with the video material. A rough version was ready for viewing Saturday 31st.

Thereafter editing sessions for parts two, three and four took place in February on the 2nd, 4th and 7th respectively, with rough edit reviews normally the following day.

The sypher session for part one, where music is added and final tweaks to the sound are made, took place on Saturday 21st February, just seven days before the episode was due to air. With the remaining sypher dates booked for February 26th, March 5th and 13th the production team did manage to pull in a slightly better gap before transmission. Episode four's sypher session managed to be eight days in advance.



TRANSMISSION: Still in its 1981 regular 5:10 p.m. time slot, the first episode of LOGOPOLIS aired on Saturday February 28th. Its transmission coincided with the first DWAS Social; a mini-Convention held in South London, notable for being the first major fan-organised event to be planned around the screening of a new episode. It was a great success with a thunderous round of applause accorded the episode's conclusion. Despite some worthy opposition LOGOPOLIS became the winner of the annual DWAS season poll, and a clear winner in the first ever Doctor Who Season Survey conducted by Marvel Comics UK for their monthly magazine.

Episodes one and three both came in at almost the ideal running length of 24' 32", while part two underran slightly at 24' 03". Episode four had needed a lot of surgery to bring its duration down, but even so it still weighed in at 25' 10", which technically was frowned on by Presentation. However, it was not quite the longest episode of the season. That honour belongs to the final instalment of THE KEEPER OF TRAKEN which chalked up one more second at 25' 11".

CUTS: The prime casualty was part four. Due to a perceived over-run there was an urgent need to prune this complex and wordy episode down to fit its time slot.

The first noticeable cut was a whole scene of Tegan fighting her way through rubble strew streets from the landing area to the Logopolitan Pharos computer room. Perhaps uncharacteristically she bemoans, "And somebody's definitely going to have to pay for a pair of new shoes. But the next time the Doctor says stay in the TARDIS - I might just do that."

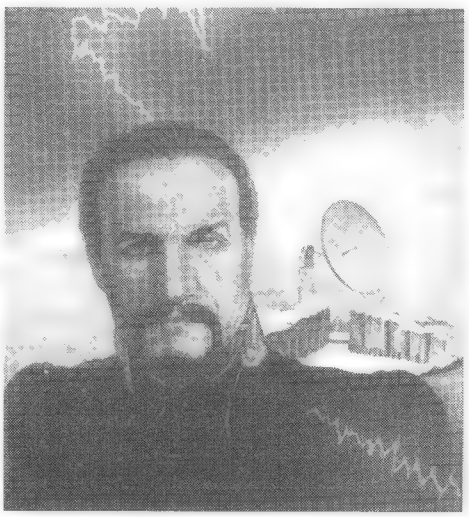
Shortly afterwards, following the Doctor's pontifications about Schubert, his conversation with the Master continues:

DOCTOR: The collapse will spread out like ripples in a pool, throughout the whole of the Universe.
MASTER: We must vacate.
DOCTOR: Entropy rusts the resolve as much as material structure.
MASTER: Do you have a concrete idea behind all that poetry, Doctor?
DOCTOR: (After a pause) No... no, nothing at all.
MASTER: My dear Doctor, you're a poor scientist. It's easy to see why you make so many mistakes.
DOCTOR: And why you make so few friends.

After the Master has abandoned the Doctor and Tegan in the computer room, the Doctor continues to ponder his adversary's idea:

DOCTOR: Reconfigure the two TARDISes into Time Cone Inverters. Yes, it would work - for at least part of the Universe. What a brilliant mind.
TEGAN: And a waste of two more brilliant minds if we don't do something soon.
DOCTOR: The Monitor's program. There's a slight chance... (The floor lurches and the computer console cracks in two) Correction, there was a slight chance.
TEGAN: Come on Doctor, we've got to stop the Master from taking off.
DOCTOR: But the solution is here. I have a strange feeling we're very close.
TEGAN: (as the Doctor taps the crumbling computer) Close to dissolution.
DOCTOR: Yes.
TEGAN: You mean this really is the end? It can't be. There must be something we can do, However remote.
DOCTOR: Remote... Of course, the core memory. (He turns on what remains of the computer and, as if releasing his pent up frustrations, begins to tear it to pieces with his hands)
TEGAN: Doctor. For goodness sake, what are you doing?
DOCTOR: An experiment in optimism. Come on. You can help. I want this thing in pieces.

The Master cuts the Logopolitan computer program



In the scene which opens on television with Adric and Nyssa observing the Watcher resetting the TARDIS co-ordinates, a page of dialogue was lost which begins with the pair being ushered out of the console room by their out of view host.

ADRIC: ...But the Doctor usually lets me help him. (Nevertheless the door is closed in their faces).
NYSSA: I don't think he needs our help. He seems to know what he's doing.
ADRIC: But what is he doing? What did he say when he fetched you from Traken?
NYSSA: He didn't say anything, just beckoned. But I wasn't afraid of him.

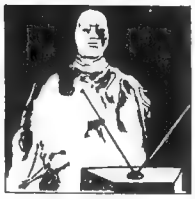
And in the very last scene of all, as the Watcher begins walking towards the critically injured Doctor, the dubbed on voice-overs explaining the presence of this ethereal being were cut back:

TEGAN: The Doctor. What's happening to him?
ADRIC: He's changing. The Watcher...
NYSSA: **So he was the Doctor all the time.**

Trivia: LOGOPOLIS is unusual in that the narrative features a *real* police telephone box.
The co-ordinates given by the Master for the CVE in line with Casseopeia are 3C461-3044. These include Anthony Ainley's telephone number of the time - three-zero-four-four. A related in-joke of the time (popularised by fanzine *Frontier Worlds*) suggested that the Monitor's phone number was four-two-four-two, based on John Fraser's delivery of the line "... we must not use it for - to - for - to run our programs..."

Continued on page 21

Falling Off



"IT'S THE END, but the moment has been prepared for." Even those without video recorders got an opportunity to see again the fourth Doctor's self-proclaimed epitaph on its March 21st day of transmission. Following an initial broadcast in part four of LOGOPOLIS, the regeneration scene was repeated an hour later over on BBC 2 as part of Ludovic Kennedy's weekly television review programme, **Did You See..?**

It was an apt choice, with implications far broader in hindsight than merely the internal narrative of **Doctor Who**'s own mythology. A time of regeneration had come in more ways than one.

Ludovic Kennedy used the LOGOPOLIS finale by way of an introduction to his principle guest that week, the BBC's out-going Head of Drama Shaun Sutton. A highly respected figure in broadcasting, Shaun Sutton had been the Corporation's drama supremo for over twelve years and was widely credited as the man responsible overall for the BBC's dominance in ratings throughout the Seventies, especially in the perceived crucial area of Saturday evening scheduling.

As well as the great Seventies dramas, such as **Elizabeth R** and **The Six Wives of Henry VIII**, Sutton had authorised and encouraged a wide range of popular series and serials across both channels. Names like **Poldark**, **The Onedin Line**, **Colditz** and **All Creatures Great and Small** came to symbolise what one of Sutton's successors, Michael Grade, would later describe as "the last Golden Age of Television".

Neither had Sutton ignored the genre more recently titled under the banner of *Tele-fantasy*. **Doomwatch**, **Survivors** and **Blake's Seven** had all scored major hits for the BBC, alongside less well remembered ventures as **Moonbase Three** and the last season of **Out of the Unknown**.

A strong believer in the power of **Doctor Who** to win audiences, Shaun Sutton had personally involved himself in the casting of Jon Pertwee and Tom Baker - particularly the former. Pertwee recalls fondly the number of expensive lunches the actor was treated to by the Head of Drama as he strove to get him to sign up as Patrick Troughton's replacement.

Sutton's retirement would strip **Doctor Who** of one of its main defenders on the senior management floor at Television Centre. Contemporaries like BBC1 Controller Alan Hart and Sutton's replacement David Reid, although sympathetic to the series, lived more by demographics than instinct. Aware that the series had lost around two million viewers since its mid-Seventies pre-eminence, suffering badly in 1980 due to direct opposition from **Buck Rogers** on ITV, Hart was, in March, already considering a review of the **Doctor Who** time slot.

The results of that review determined that LOGOPOLIS would be the last Saturday evening aired **Doctor Who** serial for over five years. While not exactly ending on a high, the show did at least sustain the ratings recovery witnessed since the start of the new year. Audience figures, in millions, of 7.1, 7.7, 5.8 and 6.1 apiece assured an overall average of 6.7 million viewers for Tom Baker's grand goodbye; a low figure in comparison with other Baker finales, but an increase of over two million from the programme's nadir in 1980.

ITV (LWT region) SATURDAY 21st MARCH 1981

PORT	PUNCH LINES	NEWS	BUCK ROGERS The Guardians	3, 2, 1	film OPERATION CROSS-EAGLES				THE PROFESSIONALS (rpt)	NEWS	THE BIG MATCH		

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

BBC 1

PORT	DR. WHO Log ep.4	NEWS	CAR TOON	JIM'LL FIX IT	LITTLE AND LARGE	film ROYAL FLASH				DALLAS	NEWS	PARKINSON	

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

BBC 2

film TOVARICH		DID YOU SEE..? inc T. Baker	NEWS	RUGBY SPECIAL	BARTOK CENTENARY		100 GREAT PAIN-TINGS	ARENA	OLD GREY WHISTLE TEST		NEWS		

The first series, starring Davison and Robert Glenister, about two hapless brothers from the north moving down and sharing a flat in London, had been a hit for BBC 1 in the autumn 1980 line-up. Keen to capitalise on this success, the option on a second series of thirteen episodes was taken up with production slated for spring/summer 1982, transmission mid-October that year.

In consequence, it meant that the nineteenth season of **Doctor Who** could start production on time in April, but it would have to go on hold mid-year while **Sink or Swim** was recorded. During the peak of the production cross-over Peter Davison would find himself filming **Sink or Swim** during a morning, and rehearsing for **a Doctor Who** production in the afternoon.

The dilemma for **Doctor Who** was how to sustain its public interest during the nine month gap. The answers John Nathan-Turner proposed, both of which were accepted, were to mount the most comprehensive series of repeats ever undertaken, and to commission a pilot spin-off idea which would not involve Peter Davison at all. The production was provisionally titled *Sarah and K•9* and will be covered in *IN•VISION* issue 53 - *K•9 and Company*.

ITV (LWT region) SATURDAY 28th FEBRUARY 1981

PORT	PUNCH -LINES	NEWS	BUCK ROGERS Duel to the Death	3, 2, 1	film HOW TO COMMIT MARRIAGE				THE PROFESSIONALS (rpt)	NEWS	THE BIG MATCH		

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

BBC 1

PORT	DR WHO Log. ep/1	NEWS	THE DUKES OF HAZZARD	JIM'LL FIX IT	NANNY	LITTLE AND LARGE	NEWS	DALLAS		PARKINSON The 300th Show		film UNIVE SAL SOLDI	

5:00 5:30 6:00 6:30 7:00 7:30 8:00 8:30 9:00 9:30 10:00 10:30 11:00

BBC 2

film THE INTIMATE STRANGER			DID YOU SEE..?	NEWS	RUGBY SPECIAL	film HAZAL			SONS AND LOVERS		NEWS	ARE -NA	

Continued from page 19

Frontier Worlds is also notable for producing a novelisation of LOGOPOLIS by Peter Anghelides and Peter G. Lovelady (with a cover by Tony Clark) in May 1982 - before Bidmead's own Target version was published.

The Logopolitans cannot use computers for their everyday block transfer computations as the nature of the mathematics changes the structure of any machine used to do the calculation. Block Transfer Computation is a way of modelling solid objects through pure mathematics: "Structure is the essence of matter, and the essence of structure is mathematics." Using block transfer computation, the Logopolitans can model any space/time event in the Universe.

It is obvious that the Doctor and the Monitor have met (on Logopolis) before.

Adric describes Earth as "the planet with all the oceans."

In the sequence immediately following the Doctor's demonstration of the malfunctioning Chamelion Circuit, the sound is not synched to the pictures of the Doctor and Adric.

Peter Davison was one of the guests on *Start The Week* on BBC Radio 4 after it was announced he would play the Doctor. When asked by Richard Baker how he would be taking over, he explained that all through Tom Baker's final story a strange figure would follow the Doctor round. Then at the end, it would be revealed that this figure was the new Doctor and Peter Davison would take over. This rather gave the game away for those few **Who** fans who were listening and who remembered the comment when LOGOPOLIS was screened.

Continuity: There is obvious continuity with the rest of Season 18 with respect to the CVEs and E-Space. At the start of the story Adric assumes they are still heading for Gallifrey - as they have been since the end of MEGLOS.

The Doctor says that Romana has broken the cardinal rule of Gallifrey by becoming involved.

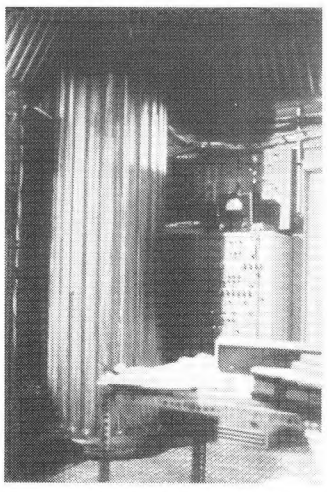
For the first time in the series, the Doctor calls his arch enemy "Master" to his face - as if it is his name.

Despite the fact that in various story's we are led to believe that the TARDIS is infinite in size, the Doctor tries to open the TARDIS doors underwater in the middle of the Thames. If it really is infinite, then the whole of the Thames (and connected seas and oceans) would presumably drain into the TARDIS and still leave space for the Master to hide.

When the Doctor does attempt to land in the Thames, he and Adric shut down the entire TARDIS. To do this, they shut down the Omega Configuration, halt the exponential crossfield, close the pathways to conditional states seven to seventeen, and end the main and auxiliary drives.

This is the first story to mention the Cloister Bell - "a sort of communications device reserved for wild catastrophes and sudden calls to man the battle stations." We are also introduced to the TARDIS Cloisters where ivy grows over crumbling stone arches set into a flagstone floor.

Finally we see a TARDIS disguised as an Ionic column



We do learn much about the TARDIS which is new. The chamelion circuit and the TARDIS's appearance in the 'normal' universe is explained by block transfer computation - as pioneered by the Logopolitans.

The mathematical model of the TARDIS exterior is based on a police telephone box. It is only the exterior of the TARDIS that exists as a real space/time event, mapped on to one of the interior continua. The outer plasmic shell is driven by the (faulty) Chamelion Circuit - the instructions for which have to be punched in using machine code.

From the Master's proposed plan to save the Universe, we learn more about the capabilities of a TARDIS. He proposes that: "One, we withdraw to a position of temporary safety; two, we reconfigure our two TARDISes into time-cone inverters; three, we create a stable safe zone by applying temporal inversion isometry to as much of space-time as we can isolate." The entropy cloud which threatens to engulf the Universe is clearly shown to be green. The scientific accuracy, or otherwise, of this has on occasion been questioned by some of the more pedantic followers of the programme.

The Master and the Doctor battle to save the Universe from green entropy

From Adric and Nyssa's observation of the Universe as the entropy cloud advances, it seems the scanner is voice controlled and can zoom in on any part of the Universe they happen to mention (for example: "Where's the Earth?" and "I can't see Traken").

Apparently the TARDIS was in for repair on Gallifrey when the Doctor 'borrowed' her.

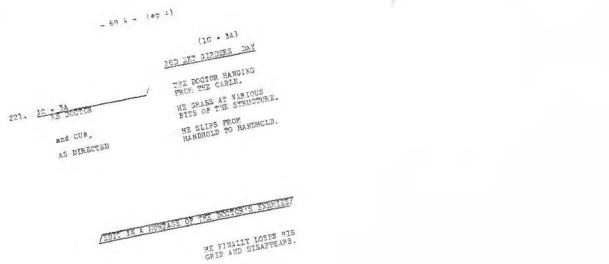
Judging by the rate of movement of the various companions' line of sight as the Doctor falls, he falls both extremely fast and at a different perceived rate depending on which companion is watching.

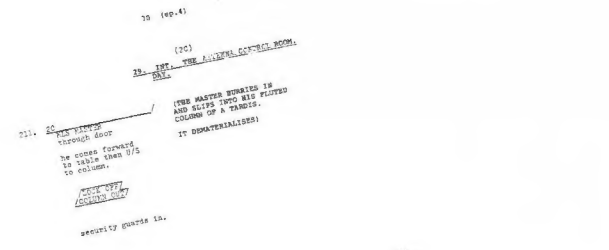
The characters who appear to the 'dying' Doctor are all related to his fourth incarnation. Some of the villains in particular seem less memorable than others - for example the Pirate Captain.

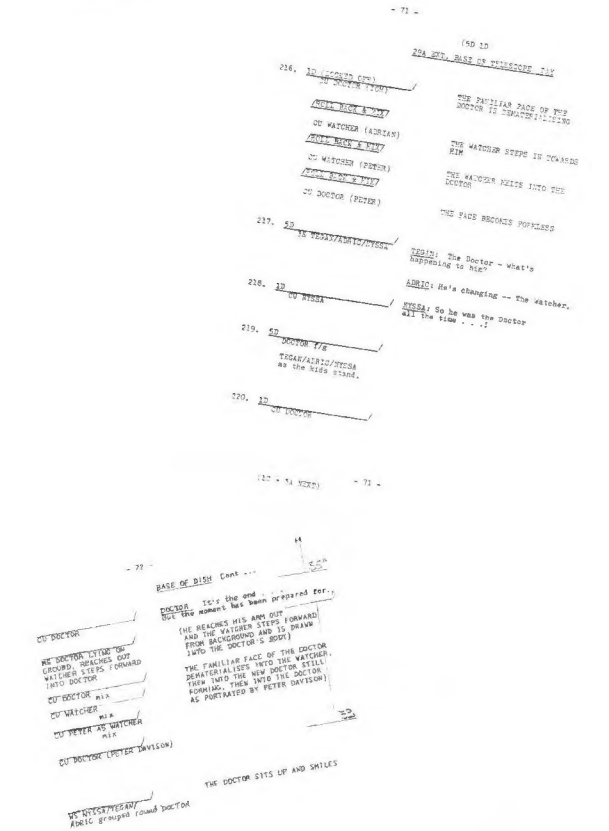
With the death of Aunt Vanessa, the cycle is completed whereby each of the companions has lost a close relative: Adric's brother Varsh is killed by the Marshmen in FULL CIRCLE; Nyssa's father Tremas is killed by the Master in THE KEEPER OF TRAKEN; Tegan's Aunt Vanessa is killed by the Master in the opening episode of LOGOPOLIS.

One point of dramatic continuity pointed out to producer John Nathan Turner led directly to the establishing of narrative continuity. From the following story, CASTROVALVA, it was established that the red lever on the console opened the TARDIS doors. In LOGOPOLIS, three different controls are used at various times to achieve this relatively straightforward task.

Of more interest to fans of the the programme was the fact that the fourth Doctor's boots seem to regenerate into shoes by part one of CASTROVALVA. In fact, if we follow established continuity it is the second and third regenerations that are out of synch - when the first Doctor regenerated, so did *all* his clothes. I•V







LOGOPOLIS

Series 18 Story 7
Serial 115
code 5V
Episodes
556-559

(NOTE: IN•VISION includes SHADA in its numbering scheme)

Cast
Doctor Who - Tom Baker (1-4)
Adric - Matthew Waterhouse (1-4)
Tegan - Janet Fielding (1-4)
Aunt Vanessa - Dolore Whiteman (1)
The Master - Anthony Ainley (4)
The Watcher - Adrian Gibbs (1-4)
Detective Inspector - Tom Georgeson (1-2)
The Monitor - John Fraser (2-4)
Nyssa - Sarah Sutton (2-4)
Security guard - Christopher Hurst (4)
Doctor Who - Peter Davison (4)

Walk-ons
PC with bicycle - Ray Knight (1)
Policemen - Peter Roy, Derek Suthern (1-2)
Logopolitans - Terry Rendle, Walter Turner, Jimmy Mac, Charles Stewart, Brychan Powell, Jim Delaney, Peter Whitaker, Evan Ross, Colin Thomas, George Ballantine, John Tucker, Roy Seeley, Billy Gray, Bill Whitehead, Douglas Bather (2-3)
Pharos technician - Robin Squire (4)
Security guards - Richard Bonehill, Simon Ramirez, Keith Guest, Steve Whyment (4)

Montage sequences
The Master - Peter Pratt
Dalek - Cy Town
Dalek voice - Roy Skelton
Pirate Captain - Bruce Purchase
Cyberman - Christopher Robbie
Davros - Michael Wisher
Sontaran - Derek Deadman
Zygon - John Woodnutt
Black Guardian - Valentine Dyall
Sarah Jane Smith - Elisabeth Sladen
Harry Sullivan - Ian Marter
Brigadier Lethbridge Stewart - Nicholas Courtney
Leela - Louise Jameson
Romana) - Mary Tamm
Romana - Lalla Ward
K•9 (voice only) - John Leeson

Crew
Title Music by Ron Grainer, and the BBC Radiophonic Workshop
Realised by Peter Howell of BBC Radiophonic Workshop
Incidental Music: Paddy Kingsland
TARDIS dematerialisation composed by Brian Hodgeson, BBC Radiophonic Workshop
Special Sound: Dick Mills
Production Manager: Margot Hayhoe
Assistant Floor Manager: Val McCrimmon
Director's Assistant: Patricia Greenland
Floor Assistant: Sandra Wynne
Lighting: Henry Barber
Technical Manager: Terry Brett
Sound: John Holmes
Grams Operator: Gordon Phillipson
Vision Mixer: Carol Johnson
Video Effects: Dave Chapman
Videotape Editor: Rod Waldron
Senior Cameraman: Reg Poulter

Crew: 4
Show Working Supervisor: Chick Hetherington
Film Cameraman: Peter Hall
Film Camera Assistant: John Daly
Film Sound Recordist: Jim McAlister
Film Sound Assistant: Tim Humphries
Film Editor: Paul Humfress
Costume Designer: June Hudson
Make-up Artist: Dorka Nieradzik
Make-up Assistants: Blaize Bettinson, Demelza Rogers, Viv Riley, Karen Waite, Karen Turner, Suzanne O'Mahoney, Sarah Grispo, Jayne Buxton, Charlotte Norman
Visual Effects Designer: John Horton
Title sequence: Sid Sutton
Properties Buyer: John Stevens
Design Assistant: Jo Day
Designer: Malcolm Thornton
Production Secretary: Jane Judge
Production Unit Manager: Angela Smith
Executive Producer: Barry Letts
Script Editor: Christopher H. Bidmead
Writer: Christopher H. Bidmead
Creator of Nyssa ©: Johnny Byrne
Producer: John Nathan-Turner
Director: Peter Grimwade

Film
Location filming took place 15th - 19th December 1980
Part 1: 16mm specially shot with sound (8'46"), 35mm opening/closing titles (1'48")
Part 2: 16mm specially shot with sound (3'43", plus 14" reprise from part 1), 35mm opening/closing titles (1'48")
Part 3: 35mm opening/closing titles (1'48")
Part 4: 16mm specially shot with sound (3'57"), 35mm opening/closing titles (1'48")

Video montage sequences (part 4)
Doctor's enemies (2 seconds each)
The Master from THE DEADLY ASSASSIN part 1, VTC/6HT/B120971/ED spool 410091)
Dalek from DESTINY OF THE DALEKS part 4, LDL/B012R spool 418064
Pirate Captain from THE PIRATE PLANET part 2, VTC/6HT/B24101 spool 416131
Cyberman from REVENGE OF THE CYBERMEN part 3, VTC/6HT/96424 spool 42916
Davros from GENESIS OF THE DALEKS part 5, VTC/6HT/98883 spool 4752
Sontaran from THE INVAION OF TIME part 5, VTC/6HT/B20561 spool 33377
Zygon from TERROR OF THE ZYGONS part 3, VTC/6HT/98836 spool 42159
Black Guardian from THE ARMAGEDDON FACTOR part 6, LDL/A076K/71 spool 417298
Doctor's companions (2 seconds each)
Sarah from TERROR OF THE ZYGONS part 2, VTC/6HT/98613 spool 44812
Harry from THE SONTARAN EXPERIMENT part 1, VTC/6HT/97269 spool 46642
Brigadier from INVASION OF THE DINOSAURS part 2, VTC/6HT/88915 spool 66738
Leela from ROBOTS OF DEATH part 1, VTC/6HT/B14067 spool 411166
K•9 from THE ARMAGEDDON FACTOR part 2, LDL/A072J/71 spool 412668
Romana 1 from THE STONES OF BLOOD part 1, VTC/6HT/B25002 spool 3822
Romana 2 from FULL CIRCLE part 1, 1/LDL/C051R/72 spool 419865

Stills
Part 2: Aerofilms (photograph aerial view of London, black and white, ref: 5989, costed on part 1 and used in part 2 for 10 seconds)
Part 4: Aviation Associates Ltd (areial photo of countryside, colour, ref: C29433, costed on part 1 and used in part 4 for 10 seconds)

Episode reprises
Part 2: 14 seconds
Part 3: 27 seconds
Part 4: 25 seconds

Transmission
Part 1: 28th February 1981, 5:10pm, BBC1 (17:09:06, 24'32")
(Repeat: 30th November 1981, 5:43pm, BBC2)
Part 2: 7th March, 1981, 5:10pm, BBC1 (17:09:23, 24'03")
(Repeat: 1st December 1981, 5:34pm, BBC2)
Part 3: 14th March, 198, 5:10pm, BBC1 (17:11:06, 24'32")
(Repeat: 2nd December 1981, 5:42pm, BBC2)
Part 4: 21st March 1981 5:10pm, BBC1 (17:09:27, 25'10")
(Repeat: 3rd December 1981, 5:40pm, BBC2)

Audience, Position, Appreciation
Part 1: 7.1m, 84th (Repeat: 5.5m)
Part 2: 7.7m, 57th (Repeat: 5.0m)
Part 3: 5.8m, 102nd (Repeat: 6.0)
Part 4: 6.1m, 97th (Repeat: 5.4m)

Recording
Studio 1: 8th, 9th Janaury 1981, TC3
Studio 2: 22nd, 23rd, 24th January 1981, TC8
Tape to tape transfer: 27th January 1981
Gallery session: 28th January 1981, TC6

VT Editing
Part 1: 29th, 30th January 1981 (+ Shibaden)
Part 2: 2nd February 1981
Part 3: 4th February 1981
Part 4: 7th February 1981

Shibaden review
Part 1: 31st January 1981
Part 2: 3rd February 1981
Part 3: 5th February 1981
Part 4: 10th February 1981

Syphering
Part 1: 21st February 1981
Part 2: 26th February 1981
Part 3: 5th March 1981
Part 4: 13th March 1981

Music
Part 1: Opening and closing titles (36" and 1'12"), incidental music (7'5"), TARDIS dematerialisation (4 x 6")
Part 2: Opening and closing titles (35" and 1'13"), incidental music (11'07"), TARDIS dematerialisation (2 x 6", 2 x 4", 2 x 6")
Part 3: Opening and closing titles (35" and 1'13"), incidental music (10'24"), TARDIS dematerialisation (4")
Part 4: Opening and closing titles (35" and 1'13"), incidental music (12'03"), TARDIS dematerialisation (24"), Schubert Symphony no. 8 "unfinished", Karl Munchinger conducting Vienna Philharmonic Orchestra (1'15").

Project numbers
Part 1: 02340/9221
Part 2: 02340/9222
Part 3: 02340/9223
Part 4: 02340/9224

Programme numbers
Part 1: 1/LDLC063W/71/X
Part 2: 1/LDLC064P/71/X
Part 3: 1/LDLC065J/72/X
Part 4: 1/LDLC066D/72/X

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Periodicals
76, Totter's Lane - Press coverage
Celestial Toyroom 3/85 - Fielding *Spotlight* photo
Destiny 2 - *Aladdin*/Fielding
DWB 112 (April 1993) - The Full Circle part 2, Tim Munro assesses the JNT years
DWB 29-30,107, AS (1987) - all photos
DWB 79 - Peter Grimwade interview
DWM AS 1987 - Costume polaroids
DWM 51 (March 1981), JNT interview
DWM 68 - Dorka Nieradzik interview
DWM Time Lords Special (Winter 1992)
DWM 109 (Jan 1986), Christopher H Bidmead interview
DWM 180 (27 Nov 1991), Tom Baker interview (part two)
DWM 185 (April 1992), Video review by Gary Russell ("...not a fitting end to such a popular and successful incarnation of the Doctor...");Change and Decay - an evaluation of Bidmead's contribution to season 18 (and Castrovalva) by Philip MacDonald
Frontier Worlds 10/11 (October 1981), Review by Justin Richards
Kinda 3 - *Aladdin*/Fielding
Laseron Probe 3&4 (March 1983), Christopher H Bidmead interview
Laseron Probe 8&9 - Press
The Leisure Hive 2 - Press/*Aladdin*/Fielding
MLG Newszine 6 - Press/Fielding
Private Who Special - The Filming of Dr Who - location filming
TV Zone 14 (Jan 1991), June Hudson (Costume designer) interviewed by Mark Wyman. Includes continuity polaroids
TV Zone 29 (April 1992), Review of video by Andrew Martin

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Bidmead, Christopher H - *Logopolis* (Target, 1982)
Tulloch, John & Alvarado, Manuel - *Doctor Who: The Unfolding Text* (MacMillan, Nov 83)

Doctor Who
The Armageddon Factor
The Daemons
The Deadly Assassin
Destiny of the Daleks
Enlightenment
The Five Doctors
Full Circle
Invasion of the Dinosaurs
The Keeper of Traken
The King's Demons
The Leisure Hive
Logopolis
The Mark of the Rani
The Masque of Mandragora
The Pirate Planet
Planet of the Spiders
Revenge of the Cybermen
Robot
The Robots of Death
Shada
The Sontaran Experiment
Spearhead from Space
State of Decay
The Stones of Blood
Survival
Terror of the Autons
Terror of the Zygons
The Trial of a Time Lord

Television & Radio
All Creatures Great and Small (BBC)
Blake's Seven (BBC, 1978-1981)
Buck Rogers in the Twenty-Fifth Century(ITV)
Colditz (BBC)
Did You See (BBC)
Doctor Who (BBC, 1963-1989)
Doomwatch (BBC)
Elizabeth R (BBC)
The Hitch Hiker's Guide to the Galaxy (BBC)
K•9 and Company (BBC, 1981)
Moonbase Three (BBC 1973)
The Omega Factor (BBC, 1978-9)
The Onedin Line (BBC)
Poldark (BBC)
The Practice (BBC)
Sink or Swin (BBC, 1979-1981)
The Six Wives of Henry VIII (BBC)
Survivors (BBC, 1975-1977)
Top of the Pops

Film
The Dam Busters (dr Michael Anderson, 1954)
Doctor in Clover (dr Ralph Thomas, 1966)
Isadora (dr Karel Reisz, 1968)
Operation Crossbow (dr Michael Anderson, 1965)
Repulsion (dr Roman Polanski, 1965)
Schizo (dr Pete Walker, 1976)
A Study in Terror (dr James Hill, 1965)
The Trials of Oscar Wilde (dr Ken Hughes, 1960)
Valley of Song (dr Gilbert Gunn, 1953)

And so we say farewell to Tom Baker as Dr Who. His appearance in tonight's concluding episode of *Logopolis* is his last. Less monastic than William Hartnell, more agile than Patrick Troughton, less debonnair than Jon Pertwee, Mr Baker has brought many nice touches of his own to the role of the constantly imperilled time traveller. He was the schoolboy who never grew up, the slightly potty professor, the wide-eyed intruder into the world of wonders, the Harpo Marx who exchanged harp and car horn for endless scarf and lethal ray gun.
The Times, 21 March 1981

IT'S THE END

BUT THE MOMENT HAS BEEN PREPARED FOR. . .